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1972

PB 289434

1971

Water Resources Data for Wisconsin

Water Year 1971

Part 1. Surface Water Records

Part 2. Water Quality Records

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UNITED STATES
DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY WATER-DATA REPORT WI-71-1

Prepared in cooperation with the State of Wisconsin
and with other agencies

CALENDAR FOR WATER YEAR 1971

OCTOBER 1970

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
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25	26	27	28	29	30	31

NOVEMBER 1970

S	M	T	W	T	F	S
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29	30					

DECEMBER 1970

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JANUARY 1971

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31						

FEBRUARY 1971

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28						

MARCH 1971

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28	29	30	31			

APRIL 1971

S	M	T	W	T	F	S
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MAY 1971

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23	24	25	26	27	28	29
30	31					

JUNE 1971

S	M	T	W	T	F	S
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20	21	22	23	24	25	26
27	28	29	30			

JULY 1971

S	M	T	W	T	F	S
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4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

AUGUST 1971

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

SEPTEMBER 1971

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

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Water resources data for the 1971 water year for Wisconsin consist of records of stage, discharge, and water quality of streams; stage, contents, and water quality of lakes and reservoirs. This report contains discharge records for 107 gaging stations; stage and contents for 41 lakes and reservoirs; water quality for 5 gaging stations. Also included are 42 low-flow and 131 crest-stage partial-record stations. Additional water data were collected at various sites, not part of the systematic data collection program, and are published as miscellaneous measurements and analyses. These data represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating local, State, and Federal agencies in Wisconsin.

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Water Resources Data
for
Wisconsin
Water Year 1971

Part 1. Surface Water Records
Part 2. Water Quality Records

UNITED STATES
DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY WATER-DATA REPORT WI-71-1

Prepared in cooperation with the State of Wisconsin
and with other agencies

Prepared in cooperation with

Wisconsin Department of Natural Resources
Wisconsin Department of Transportation
The University of Wisconsin-Extension
Geological and Natural History Survey
Southeastern Wisconsin Regional Planning Commission
Corps of Engineers, U. S. Army

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1973

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(Letters after station name designate type of data: (c), chemical; (t), water temperature; (s), sediment)

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WATER RESOURCES DATA FOR WISCONSIN, 1971

Part 1. Surface-Water Records
Part 2. Water-Quality Records

INTRODUCTION

Water-resources data in this report include records of streamflow, lake stage, and reservoir storage at gaging stations, partial-record stations, misecllaneous sites and chemical and physical characteristics of surface water. Records for a few pertenent gaging stations in bordering States also are included. Locations of gaging stations on streams and lakes are shown in figure 1. Locations of water-quality stations are shown in figure 6. The records were collected and computed by the Water Resources Division of the U.S. Geological Survey under the direction of C.L.R. Holt, Jr., district chief. These data represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in Wisconsin.

Through September 30, 1960, the records of discharge and state of streams, and contents and stage of lakes and reservoirs were published in an annual series of U.S. Geological Survey Water-Supply Papers titled "Surface Water Supply of the United States". Streamflow records for 1961-65 are published in a Geological Survey Water-Supply Paper series titled, "Surface Water Supply of the United States 1961-65". The Geological Survey has published records of chemical quality, suspended sediment, and water temperatures since 1941 in an annual series of Water-Supply Papers titled, "Quality of Surface Waters of the United States".

Beginning with the 1961 water year, streamflow records and related data have been released by the Geological Survey in annual reports on a State-boundary basis. Beginning with the 1964 water year, water-quality records have been released with streamflow records or in a separate part. Distribution of these reports is limited; they are designed primarily for rapid release of data shortly after the end of the water year.

COOPERATION

The U.S. Geological Survey and organizations of the State of Wisconsin have had cooperative agreements for the systematic collection of streamflow records since 1913, and for water-quality records since 1963. Organizations that supplied data are acknowledged in station descriptions.

Organizations that assisted in collecting records through cooperative agreement with the Survey are:

Wisconsin Department of Natural Resources, L. P. Voigt, secretary.

Wisconsin Department of Transportation, G. H. Bakke and N. M. Clapp, secretaries, and W. A. Kline, chief bridge engineer.

The University of Wisconsin-Extension, Geological and Natural History Survey, George F. Hanson, state geologist and director.

Southeastern Wisconsin Regional Planning Commission, Kurt W. Bauer, executive director.

Assistance in the form of funds or services was given by the Corps of Engineers, U.S. Army, in collecting surface-water records for 22 gaging stations published in this report, and by the Environmental Protection Agency, U.S. Department of the Interior, in collecting records for one water-quality station published in this report. Assistance also was furnished by the Environmental Science Services Administration, U.S. Department of Commerce.

The following organizations aided in collecting records:

Wisconsin Valley Improvement Co.; Lake Superior District Power Co.; Wisconsin-Michigan Power Co.; Wisconsin Public Service Corp.; Northern States Power Co.; Dairyland Power Cooperative; Wisconsin Power and Light Co.; Nekoosa-Edwards Paper Co.; Wisconsin River Power Co.; Milwaukee County Park Commission; Milwaukee Water Works, Linwood Avenue Plant; and the city of Madison.

DEFINITION OF TERMS

Terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined as follows:

Acre-foot (AC-FT, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet or about 326,000 gallons.

Bed material is the shifting portion of fragmented material in the streambed.

Biochemical oxygen demand (BOD) is the amount of oxygen required by bacteria while stabilizing decomposable organic matter under aerobic conditions.

Cfs-day is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, or about 646,000 gallons, and represents a runoff of approximately 0.0372 inch from 1 square mile.

Chemical oxygen demand (COD) indicates the quantity of oxidizable compounds in water and varies with water composition, temperature, period of contact, and other factors.

Coliform organisms are a group of bacteria that indicate the sanitary quality of water. The number of coliform colonies per 100 milliliters is determined by the immediate or delayed incubation membrane filter method.

Contents is the volume of water in a reservoir or lake. Unless otherwise indicated, volume is computed on the basis of a level pool and does not include bank storage.

Control designates a feature downstream from a gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, an artificial structure, or a uniform cross section over a long reach of the channel.

Cubic feet per second per square mile (CFSM) is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

Cubic foot per second (cfs) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to approximately 7.48 gallons per second or 448.8 gallons per minute.

Discharge is the volume of fluid that passes a given point within a given period of time.

Mean discharge is the arithmetic average of individual daily mean discharges during a specific period.

Instantaneous discharge is the discharge at a particular instant of time. Where this discharge is used in tables instead of the daily mean, the column heading is "Discharge (cfs)".

Drainage area of a stream at a specified location is that area, measured in a horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the stream above the specified point. Drainage-area figures include the entire basin area including noncontributing areas unless otherwise noted.

Gage height (G.H.) is the water-surface height referred to an arbitrary datum. Gage height ofter is used interchangeably with "stage", although gage height is more appropriate when used as a gage reading.

Gaging station is a site on a stream, canal, lake or reservoir where systematic observations of gage height or discharge are obtained. When used with a discharge record, the term applies only to gaging stations having a continuous discharge record.

Hardness of water is a physical-chemical characteristic attributable to the presence of alkaline earths (principally calcium and magnesium) and is expressed as equivalent calcium carbonate ($CaCO_3$).

Methylene blue active substance (MBAS) is a measure of detergents in water. This determination depends on the formation of a blue color when methylene blue dye reacts with snythetic detergent compounds.

Micrograms per liter (ug/l, UG/L) is a unit expressing the concentration of chemical constituents in solution as the weight (micrograms) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to one milligram per liter.

Milligrams per liter (mg/l, MG/L) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represents the weight of solute per unit volume of water. Milligrams or micrograms per liter may be converted to milliequivalents (one thousandth of a gram-equivalent weight of a constituent) per liter by multiplying by the factors in table 1, page 5. Concentration of suspended sediment also is expressed in mg/l, and is based on the weight of sediment per liter of water-sediment mixture. Sediment concentrations may be converted to parts per million by using the factors in table 2, page 6.

Partial-record station is a site where limited streamflow or water-quality data are collected systematically over a period of years.

Particle size is the diameter, in millimeters (mm), of suspended sediment or bed material determined by either sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the stream water at the time and point of sampling) (Guy, 1969).

Table 1.--Factors for conversion of chemical constituents in milligrams or micrograms per liter to milliequivalents per liter

Ion	Multiply by	Ion	Multiply by
Aluminum (Al^{+3})*	0.11119	Iodide (I^{-1})	0.00788
Ammonia as NH_4^{+1}	.05544	Iron (Fe^{+3})*	.05372
Barium (Ba^{+2})	.01456	Lead (Pb^{+2})*	.00965
Bicarbonate (HCO_3^{-1})	.01639	Lithium (Li^{+1})*	.14411
Bromide (Br^{-1})	.01251	Magnesium (Mg^{+2})	.08226
Calcium (Ca^{+2})	.04990	Manganese (Mn^{+2})*	.03640
Carbonate (CO_3^{-2})	.03333	Nickel (Ni^{+2})*	.03406
Chloride (Cl^{-1})	.02821	Nitrate (NO_3^{-1})	.01613
Chromium (Cr^{+6})*	.11539	Nitrite (NO_2^{-1})	.02174
Cobalt (Co^{+2})*	.03394	Phosphate (PO_4^{-3})	.03159
Copper (Cu^{+2})*	.03148	Potassium (K^{+1})	.02557
Cyanide (CN^{-1})	.03844	Sodium (Na^{+1})	.04350
Fluoride (F^{-1})	.05264	Strontium (Sr^{+2})*	.02283
Hydrogen (H^{+1})	.99209	Sulfate (SO_4^{-2})	.02082
Hydroxide (OH^{-1})	.05880	Zinc (Zn^{+2})*	.03060

*Constituent reported in micrograms per liter; multiply by factor and divide results by 1,000.

Table 2.--Factors for conversion of sediment concentration in milligrams per liter to parts per million*
(All values calculated to three significant figures)

Range of concentration in 1000 mg/l	Divide by	Range of concentration in 1000 mg/l	Divide by	Range of concentration in 1000 mg/l	Divide by	Range of concentration in 1000 mg/l	Divide by
0 - 8	1.00	201-217	1.13	411-424	1.26	619-634	1.39
8.05- 24	1.01	218-232	1.14	427-440	1.27	636-650	1.40
24.2 - 40	1.02	234-248	1.15	443-457	1.28	652-666	1.41
40.5 - 56	1.03	250-264	1.16	460-473	1.29	668-682	1.42
56.5 - 72	1.04	266-280	1.17	476-489	1.30	684-698	1.43
72.5 - 88	1.05	282-297	1.18	492-506	1.31	700-715	1.44
88.5 -104	1.06	299-313	1.19	508-522	1.32	717-730	1.45
105 -120	1.07	315-329	1.20	524-538	1.33	732-747	1.46
121 -136	1.08	331-345	1.21	540-554	1.34	749-762	1.47
137 -152	1.09	347-361	1.22	556-570	1.35	765-780	1.48
153 -169	1.10	363-378	1.23	572-585	1.36	782-796	1.49
170 -185	1.11	380-393	1.24	587-602	1.37	798-810	1.50
186 -200	1.12	395-409	1.25	604-617	1.38		

*Based on water density of 1.000 g/ml (grams per millitier) and a specific gravity of sediment of 2.65.

Runoff in inches (IN.) shows the depth to which the drainage area would be covered if all runoff for a given time period were uniformly distributed.

Sediment is solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water; it includes chemical and biochemical precipitates and decomposed organic material such as humus. The quantity, characteristics, and cause of sediment in streams are influenced by environmental factors. Some major factors are geology, topography, soil characteristics, land use, and the quantity and intensity of precipitation.

Suspended sediment is the sediment that is maintained in suspension by the upward components of turbulent currents or that is suspended as a colloid.

Suspended-sediment discharge is the rate at which a dry weight of sediment passes a stream section, or it is the dry weight or volume discharged during a time period. It is the product of the instantaneous stream discharge, the concentration (mg/l), and 0.0027.

Suspended-sediment concentration is the velocity-weighted amount of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/l).

Sodium adsorption ratio (SAR) expresses the relative activity of sodium ions in exchange reactions with soil and is an index of the sodium or alkali hazard to the soil. This ratio is used to determine the suitability of water for irrigation.

Solute is any substance derived from the atmosphere, vegetation, soil, or rocks that is dissolved in water.

Specific conductance is a measure of the ability of water to conduct electric current and is expressed in micromhos per centimeter at 25°C. Because specific conductance is related to the number and types of ions in solution, it can be used to approximate the dissolved-solids content in water. Commonly the amount of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in micromhos). This relation differs from stream to stream and from well to well; it may even differ with the composition of ions in the water.

Stage-discharge relation is the relation between gage height and the volume of water (per unit of time) flowing in a channel.

Thermograph is a thermometer that continuously records the water temperature on a chart. "Temperature recorder" is the term used to indicate a thermograph or digital mechanism that automatically records water temperatures on paper tape.

Tons per acre-foot indicates the dry weight of dissolved solids in 1 acre-foot of water. It is the product of the sediment concentration (in mg/l) and 0.00136.

Tons per day is the quantity of a substance in solution or suspension that passes a stream section during 24 hours.

WRD is an abbreviation for "Water-Resources Data" in the summary REVISIONS paragraph that refers to published State annual basic-data reports.

WSP is an abbreviation for "Water-Supply Paper".

SPECIAL NETWORKS AND PROGRAMS

Hydrologic bench-mark station is one that provides hydrologic data for a basin in which the hydrologic regimen will likely be governed solely by natural conditions. Data collected at a bench-mark station may be used to separate effects of natural from manmade changes in other basins which have been developed and in which the physiography, climate, and geology are similar to those in the undeveloped bench-mark basin.

DOWNSTREAM ORDER AND STATION NUMBER

Stations are listed in a downstream direction along the main stream, and stations on tributaries are listed between stations on the main stream in the order in which those tributaries enter the main stream. Stations on tributaries entering above all mainstream stations are listed before the first mainstream station. Stations on tributaries to tributaries are listed in a similar manner. In the lists of gaging stations and water-quality stations in the front of this report the rank of tributaries is indicated by indention, each indention representing one rank.

For identification, each gaging station, partial-record station, and water-quality station has been assigned a station number. These numbers are in the same downstream order mentioned above. In assigning station numbers no distinction is made between partial-record stations and gaging stations. Water-quality stations located at or near gaging stations or partial-record stations have the same number as the gaging or partial-record station. Gaps are left in the series of numbers so that new stations may be established. The complete 8-digit number for each station, such as 05407000 appears just left of the station name and includes the 2-digit part number "05" plus the 6-digit downstream order number "407000". In this report the records are listed in downstream order by parts. The part number refers to an area bounded by certain natural major drainage lines. Records in this report are in Part 4 (St. Lawrence River basin) and Part 5 (Upper Mississippi River basin). All records for a drainage basin encompassing more than one State can be arranged in downstream order by assembling pages from the various State reports by station number.

SURFACE-WATER RECORDS

Collection and computation of data

The basic data collected at gaging stations consist of records of stage and measurements of discharge of streams or canals, and stage, surface area, and contents of lakes and reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement base data in determining the daily flow or volume of water in storage. Records of stage are obtained from direct readings on a nonrecording gage or from a water-stage recorder that gives either a continuous graph of the fluctuations or a tape punched at 15, 30-, or 60-minute intervals. Measurements of discharge are made with a current meter, using the general methods adopted by the Geological Survey on the basis of experience in stream gaging since 1888. These methods are described in standard textbooks, in Water-Supply Paper 888, and in U.S. Geological Survey Techniques of Water Resources Investigations, book 3, chapter A6. Surface areas of lakes or reservoirs are determined from instrument surveys using standard methods. The configuration of the reservoir bottom is determined by sounding at many points.

Rating tables giving the discharge for any stage are prepared from stage-discharge relation curves. If extensions to the rating curves are necessary to express discharges greater than those measured, they are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, computation of flow over dams or weirs), velocity-area studies, and logarithmic plotting. The daily mean discharge is computed from gage heights and rating tables, and the monthly and yearly mean discharges are computed from the daily figures. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is computed by the shifting-control method, in which correction factors based on individual discharge measurements and notes by engineers and observers are used in applying the gage heights to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris, the daily mean discharge is computed by what is basically the shifting-control method.

At some stream-gaging stations the stage-discharge relation is affected by backwater from reservoirs, tributary streams, or other sources. This necessitates the use of the slope method in computing discharge. The slope or fall is obtained by means of an auxiliary gage separated from the base gage. At some stations the stage-discharge relation is affected by changing stage; at these stations the rate of change in stage is used as a factor in computing discharge.

At some stream-gaging stations the stage-discharge relation is affected by ice and it is impossible to compute the discharge in the usual manner. Discharge for periods of ice effect is computed on the basis of the gage-height record and occasional winter discharge measurements, considering available information on temperature and precipitation, notes by gage observers and hydrologists, and comparable records of discharge for other stations in the same or nearby basins.

For some gaging stations there are periods without gage-height record or the recorded gage height is faulty. This happens when the recorder stops or fails to operate properly, intakes are plugged, the float is frozen in the well, or for other reasons. For such periods the daily discharges are estimated on the basis of recorded range in stage, adjoining good record, discharge measurements, weather records, and comparison with station records from the same or nearby basins.

Data in this report include a general description of the stations and tabulations of daily and monthly figures. A table showing the daily discharge and monthly and yearly discharges is given for gaging stations on streams or canals. A monthly summary table of stage and contents or a table showing the daily contents is given for gaging stations on lakes and reservoirs. Records are published for the water year, which begins October 1 and ends September 30. A calendar for the current water year is shown on the reverse side of the front cover to facilitate finding the day of the week for any date.

The description of the gaging stations gives the location, drainage area, period of record, type and history of gages, average discharge, extremes of discharge or contents, general remarks, and notations of revisions of previously published records. The location of the gaging station and the drainage area are obtained from the most accurate maps available. River mileage, given under "LOCATION" for some stations, is that determined and used by the Corps of Engineers or other agencies. Periods for which there are published records for the present station or for stations generally equivalent to the present one are given under "PERIOD OF RECORD." The type of gage currently in use, the datum of the present gage above mean sea level, and a condensed history of the types, locations, and datums of previous gages used during the period of record are given under "GAGE." In references to datum of gage, the phrase "mean sea level" denotes "Sea Level Datum of 1929" as used by the Topographic Division of the Geological Survey unless otherwise qualified. The average discharge for the number of years indicated is given under "AVERAGE DISCHARGE;" it is not given for stations having fewer than 5 complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance. In addition, the median of yearly mean discharges is given for stream-gaging stations having 10 or more complete years of record if the median differs from the average by more than 10 percent. The maximum discharge (or contents) and the maximum gage height, the minimum discharge if there is little or no regulation (or minimum contents) and the minimum gage height if it is significant are given under "EXTREMES." The minimum daily discharge is given if there is extensive regulation (also the minimum discharge and gage height if they are abnormally low). In the first paragraph headed "Current year," the data given are for the complete current water year unless otherwise specified. In the second paragraph under "EXTREMES" headed "Period of record:" the data given are for the period of record given in PERIOD OF RECORD paragraph. Reliable information concerning major floods that occurred outside the period of record is given in the third or last paragraph under "EXTREMES." Unless otherwise qualified, the maximum discharge (or contents) corresponds to the crest stage obtained by use of a water-stage recorder (graphic or digital), a crest-stage gage, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur at the same time as the maximum discharge (or contents), it is given separately. Information pertaining to the accuracy of the discharge records, to conditions that affect the natural flow at the gaging station, and availability of Water Quality records, is given under "REMARKS."

Published records of some stations were found to be erroneous, based on data obtained later. Refisions of erroneous records usually are published with the current records in one of the annual or compilation reports. A paragraph headed "REVISIONS (WATER YEARS)" has been added to the description of all stations having published revised records. All reports in which revisions have been published are listed, each followed by the water years for which figures are revised in that report. In listing the water years, only one year is given; for instance, 1965 stands for the period October 1, 1964, to September 30, 1965. If no daily, monthly, or annual figures of discharge were revised, notations after the dates indicate the following revisions: "(M)" only instantaneous maximum discharge; "(m)" only the instantaneous minimum; and "(P)" only peak discharges. If the drainage area has been revised, the water year is given in which the revised figure was first published. For all stations with published cubic feet per second per square mile and runoff in inches, a revision of the drainage area necessitates revision of all figures based on the drainage area. Revised figures of cubic feet per second per square mile and runoff in inches, resulting from revised drainage area only, usually are not published in the annual report series.

Skeleton rating tables are published for stream-gaging stations where they are useful and where applicable dates are easily identified.

The daily table for a stream-gaging station gives the discharge corresponding to the daily mean gage height unless large or rapid changes occur in the discharge during a day. For days having large or rapid changes, discharge for the day is computed by averaging the mean discharge for several parts of a day. Where digital recorders are used, the daily mean discharge is the average discharge at each punched reading. For stations equipped with nonrecording gages, the daily discharge corresponds to once-daily readings of the gage or to the mean of twice-daily readings; for periods of rapidly changing stage the discharge is determined from a gage-height graph based on gage readings.

A monthly summary is below the daily table. For stream-gaging stations the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month. Discharge for the month also may be expressed in cubic feet per second per square mile (line headed "CFSM") and in inches (line headed "IN."). Figures for cubic feet per second per square mile and runoff in inches are omitted if there is extensive regulation or diversion, or if the drainage area includes large noncontributing areas.

In the yearly summary, below the monthly summary, the figures following "MAX" are the maximum daily discharges for the calendar and water years; likewise, those following "MIN" are the minimum daily discharges.

Footnotes to the daily-discharge table are introduced by the word "NOTE". Footnotes indicate periods for which the discharge is computed or estimated by special methods because of no gage-height record, backwater, or other unusual conditions. Periods of no gage-height record are indicated if the period is continuous for a month or more or includes the maximum discharge for the year. Periods of backwater, indefinite stage-discharge relation, or other unusual condition at the gage site are indicated only if they are a month or more in length and the accuracy of the records is affected. Days on which the stage-discharge relation is affected by ice are not indicated. The methods used to compute discharge for several unusual conditions have been explained.

Peak discharges, their times of occurrence, and the corresponding gage heights for many stations are listed below the yearly summary. All peaks above the selected base are listed. The base discharge, in parentheses, is selected to present about three peaks a year. Peak discharges are not published for canals, ditches, drains, or streams substantially controlled by man. Time of day is expressed in 24-hour local standard time; for example 12:30 a.m. is 0030, and 1:30 p.m. is 1330.

Information for gaging stations on lakes includes a station description and a monthly summary table of stage. Information for reservoir stations includes a description and location paragraph and month-end contents, in millions of cubic feet.

Data collected at partial-record stations and miscellaneous sites are listed in three tables at the end of the surface-water records. The first table is discharge measurements at low-flow partial-record stations, the second is annual maximum stage and discharge at crest-stage stations, and the third is discharge measurements at miscellaneous sites. A fourth table lists measured discharges for low-flow investigations.

Accuracy of Data

The accuracy of discharge data depends primarily on (1) the stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements, and (2) the accuracy of observations of stage, measurements of discharge, and interpretation of records.

The station description under "REMARKS" states the degree of accuracy of the records. "Excellent" means that about 95 percent of the daily discharges is within 5 percent; "good" within 10 percent; and "fair" within 15 percent. "Poor" means that daily discharges have less than "fair" accuracy.

Figures of daily mean discharge are to the nearest hundredth of a cubic foot per second for discharges of less than 1 cfs; to tenths between 1.0 and 10 cfs; to whole numbers between 10 and 1,000 cfs; and to 3 significant figures above 1,000 cfs. The number of significant figures used is based on the magnitude of the figure. The same rounding rules apply to discharge figures for partial-record stations and miscellaneous sites.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to diversion, consumption, storage regulation, increase or decrease in evaporation due to artificial causes, or to other factors. For such stations, figures of cubic feet per second per square mile and of runoff in inches are not published. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents unless it is so stated. Even where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

Publications

Each Water-Supply Paper titled "Surface Water Supply of the United States" has a list of previous Water-Supply Papers containing streamflow information for the area covered by that report. There is also a list of Water-Supply Papers containing detailed information on major floods in the area. Records for stations in Wisconsin for the period October 1960 through September 1965 are in Water-Supply Papers 1911, 1914, and 1915.

Two series of summary reports titled "Compilation of Records of Surface Waters of the United States" have been published; the first series covers the entire period of record through September 1950 and the second series covers the period October 1950 through Secptember 1960. These reports contain summaries of monthly and annual discharge and monthend storage for all published records, as well as some records not contained in the annual series of Water-Supply Papers. All records were revised where warranted. Estimated discharges fill short gaps whenever practical. The yearly summary table for each gaging station lists the numbers of the Water-Supply Papers in which daily records were published for that station. Records for stations in Wisconsin are compiled in Water-Supply Papers 1307 and 1308 through September 1950, and in 1727 and 1728 for October 1950 through September 1960.

Special reports on major floods or droughts or of other hydrologic studies for the area have been issued in publications other than Water-Supply Papers. Information relative to these reports may be obtained from the district office.

Other data available

More detailed information than that published for most gaging stations, such as discharge measurements, gage-height records, and rating tables, is on file in the district office. Also most gaging-station records are available in computer-usable form, and many statistical analyses have been made.

WATER QUALITY RECORDS

Collection and examination of data

Water samples for analyses usually are collected at or near gaging stations. The discharge records at these stations are used with the computations of the chemical constituents and sediment loads in this report.

Descriptions of water-quality stations located at or near streamflow stations include location, drainage area, periods of record for the various water-quality data, extremes of pertinent data, and general remarks. The format is similar to that used for streamflow gaging stations.

Water-quality information includes chemical quality, biological, microbiological, water temperature, and fluvial sediment. Chemical quality includes concentrations of dissolved constituents and certain properties of characteristics such as hardness, sodium adsorption ratio, specific conductance, and pH. The biological information includes qualitative and quantitative analyses of plankton, bottom organisms, and particulate inorganic and amorphous matter. Microbiological information includes quantitative identification of certain bacteriological indicator organisms. Water-temperature data represent once-daily observations except for stations with a continuous temperature recorder from which daily minimums and maximums are obtained. Fluvial-sediment information is given for suspended-sediment discharges and concentrations, and particle-size distribution of suspended sediment and bed material.

Before the 1968 water year, data for chemical constituents and concentration of suspended sediment were reported in parts per million (ppm), and water temperatures were reported in degrees Fahrenheit (°F). In October 1967 the U.S. Geological Survey began to use the metric system; data for chemical constituents and concentrations of suspended sediment are now reported in milligrams per liter (mg/l), and water temperatures are given in degrees Celsius (centigrade, °C). In waters with a density of 1.000 g/ml (grams per millititer), parts per million and milligrams per liter can be considered equal. In waters with a density greater than 1.000 g/ml, values in parts per million should be multiplied by the density to convert to milligrams per liter. Temperatures in degrees Celsius are converted to Fahrenheit in table 3, page 17.

In October 1968, the Geological Survey began reporting many chemical constituents and minor elements in micrograms per liter. (See "Definition of Terms," p. 4.)

Table 3.--Degrees Celsius (°C) to degrees Fahrenheit (°F)*
(Temperature reported to nearest 0.5°C)

°C	°F	°C	°F	°C	°F	°C	°F	°C	°F
0.0	32	10.0	50	20.0	68	30.0	86	40.0	104
.5	33	10.5	51	20.5	69	30.5	87	40.5	105
1.0	34	11.0	52	21.0	70	31.0	88	41.0	106
1.5	35	11.5	53	21.5	71	31.5	89	41.5	107
2.0	36	12.0	54	22.0	72	32.0	90	42.0	108
2.5	36	12.5	54	22.5	72	32.5	90	42.5	108
3.0	37	13.0	55	23.0	73	33.0	91	43.0	109
3.5	38	13.5	56	23.5	74	33.5	92	43.5	110
4.0	39	14.0	57	24.0	75	34.0	93	44.0	111
4.5	40	14.5	58	24.5	76	34.5	94	44.5	112
5.0	41	15.0	59	25.0	77	35.0	95	45.0	113
5.5	42	15.5	60	25.5	78	35.5	96	45.5	114
6.0	43	16.0	61	26.0	79	36.0	97	46.0	115
6.5	44	16.5	62	26.5	80	36.5	98	46.5	116
7.0	45	17.0	63	27.0	81	37.0	99	47.0	117
7.5	45	17.5	63	27.5	81	37.5	99	47.5	117
8.0	46	18.0	64	28.0	82	38.0	100	48.0	118
8.5	47	18.5	65	28.5	83	38.5	101	48.5	119
9.0	48	19.0	66	29.0	84	39.0	102	49.0	120
9.5	49	19.5	67	29.5	85	39.5	103	49.5	121

*C = 5/9 (°F -32) or °F = 9/5 (°C) + 32.

Solutes

Methods of collecting and analyzing water samples for determining the kinds and concentrations of solutes are described by Brown, Skougstad, and Fishman (1970). One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the water. Some streams must be sampled at several verticals across the channel to determine accurately the solute load.

Temperature

Water temperatures are measured at most water-quality stations. Large streams have a small diurnal temperature change; small, shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-head discharges.

Records at stations having continuously recording thermographs include maximum and minimum daily temperatures and monthly averages.

Sediment

Suspended-sediment concentrations are determined from samples collected with depth-integrating samplers. Samples usually are obtained at a single vertical in the cross-section. During periods of high or rapidly changing flow, samples are taken twice or more throughout the day at many stations. Suspended-sediment samples are collected periodically at all stations. Although such data may represent conditions only at the time of collection, they are useful in establishing relations between sediment discharge and streamflow. These relations are used to predict long-term sediment-discharge characteristics for the stream.

In addition to the records of the quantities of suspended sediment, records of periodic measurements of the particle-size distribution of the suspended sediment and bed material are included.

Publications

The annual series of water-supply papers that contain information on quality of surface waters in Wisconsin are listed on the following page.

Parts 3 and 4

Water year	WSP No.	Water year	WSP No.	Water year	WSP No.	Water year	WSP No.
1941	942	1948	1132	1955	1400	1962	1942
1942	950	1949	1162	1956	1450	1963	1948
1943	970	1950	1186	1957	1520	1964	1955
1944	1022	1951	1197	1958	1571	1965	1962
1945	1030	1952	1250	1959	1642	1966	1992
1946	1050	1953	1290	1960	1742	1967	2012
1947	1102	1954	1350	1961	1882		

Parts 5 and 6

Water year	WSP No.	Water year	WSP No.	Water year	WSP No.	Water year	WSP No.
1941	942	1948	1132	1955	1401	1962	1943
1942	950	1949	1162	1956	1451	1963	1949
1943	970	1950	1187	1957	1521	1964	1956
1944	1022	1951	1198	1958	1572	1965	1963
1945	1030	1952	1251	1959	1643	1966	1993
1946	1050	1953	1291	1960	1743	1967	2013
1947	1102	1954	1351	1961	1883		

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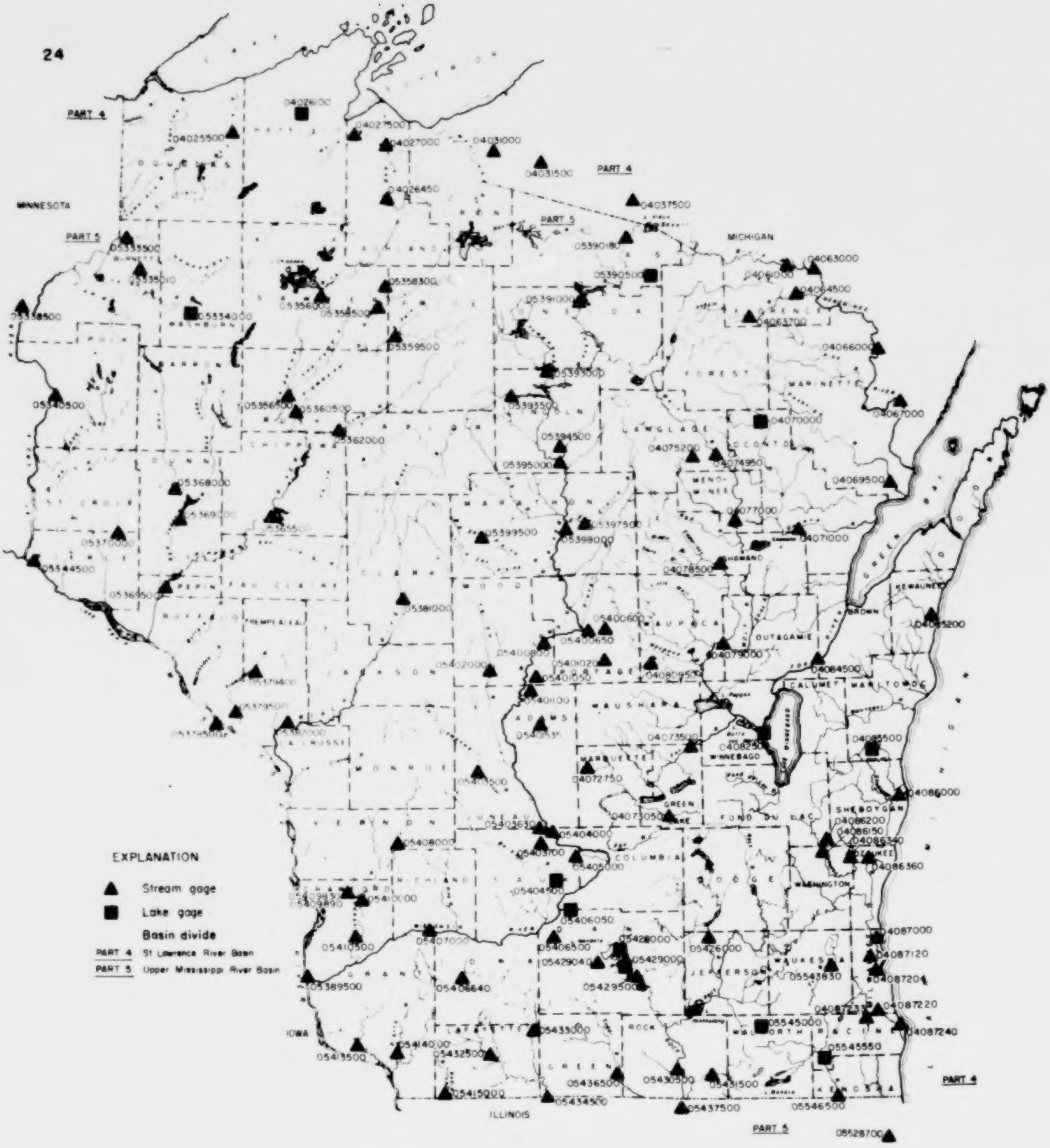
PART 1. SURFACE WATER RECORDS


EXPLANATION
Stream gage
Lake gage
Basin divide
PART 4 St Lawrence River Basin
PART 5 Upper Mississippi River Basin
MINNESOTA
MICHIGAN
IOWA
ILLINOIS
PART 4
PART 5
04025500
04026000
04027500
04027000
04031000
04031500
04026450
04037500
05390180
05390500
05391000
05333500
05335010
05338500
05334000
05358300
05356000
05358500
05359500
05393000
05393500
05340500
05356500
05360500
05362000
05394500
05395000
05368000
05369000
05365500
05370000
05399500
05397500
05398000
05344500
05369500
05381000
05400600
05400650
05400800
05401020
05401050
05401100
05402000
05379400
05379500
05378500
05382000
05403500
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05405000
05404500
05406050
05408000
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05406500
05406640
05389500
05414000
05413500
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05415000
05434500
05433000
05436500
05430500
05431500
05437500
05429040
05428000
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05429500
05426000
05543830
05545000
05545550
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04061000
04064500
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04066000
04067000
04070000
04069500
04075200
04074950
04077000
04071000
04078500
04079000
04080950
04084500
04085200
04073500
04082500
04072750
04073050
04085500
04086000
04086200
04086150
04086340
04086360
04087000
04087120
04087204
04087220
04087233
04087240
DOUGLAS
BAYFIELD
ASHLAND
IRON
VILAS
FOREST
FLORENCE
MARINETTE
OCONTO
LANGLADE
MENOMINEE
SHAWANO
ONEIDA
PRICE
LINCOLN
SAWYER
WASHBURN
BURNETT
POLK
BARRON
RUSK
TAYLOR
CHIPPEWA
DUNN
ST CROIX
PIERCE
PEPIN
EAU CLAIRE
BUFFALO
TREMPEALEAU
CLARK
MARATHON
WOOD
PORTAGE
WAUPACA
OUTAGAMIE
BROWN
KEWAUNEE
DOOR
JACKSON
LA CROSSE
MONROE
JUNEAU
ADAMS
WAUSHARA
WINNEBAGO
CALUMET
MANITOWOC
MARQUETTE
GREEN LAKE
FOND DU LAC
SHEBOYGAN
VERNON
RICHLAND
SAUK
COLUMBIA
DODGE
WASHINGTON
OZAUKEE
CRAWFORD
GRANT
IOWA
DANE
JEFFERSON
WAUKESHA
MILWAUKEE
LAFAYETTE
GREEN
ROCK
WALWORTH
RACINE
KENOSHA
GREEN BAY
LAKE MICHIGAN
LAKE SUPERIOR

Figure 1. Map of Wisconsin showing location of lake and continuous-stream gaging stations.

HYDROLOGIC CONDITIONS

Annual runoff in Wisconsin for the water year ending Sept. 30, 1971, ranged from near normal for most streams to above normal in areas of the west-central and southeastern parts of the State (see figure 2). Runoff was 150 percent of the average for 21 years of record for the Hay River at Wheeler. Runoff of the Galena River at Buncombe was about 80 percent of the average for the past 32 years.

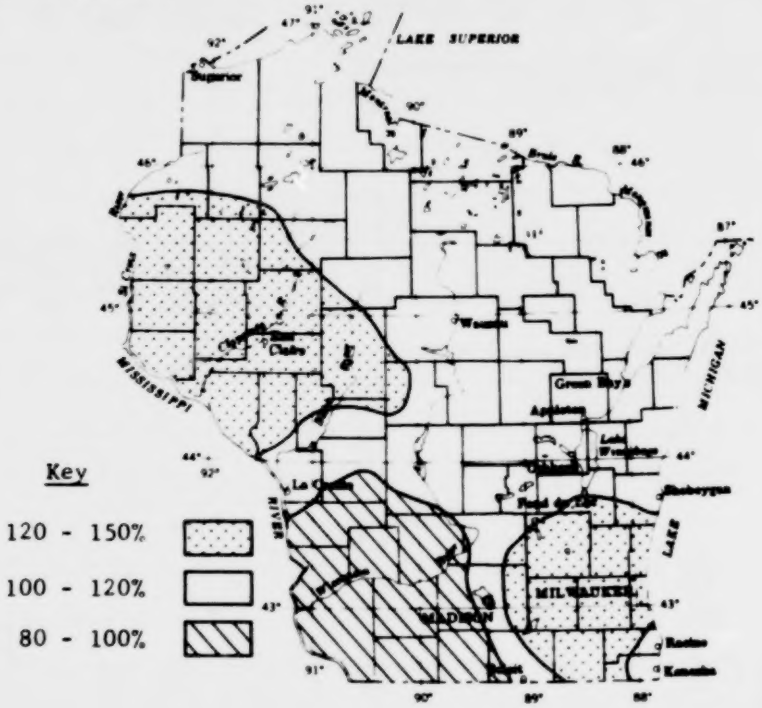

LAKE SUPERIOR
Superior
Eau Claire
Wausau
Green Bay
Appleton
Sheboygan
La Crosse
MADISON
MILWAUKEE
Racine
Kenosha
MISSISSIPPI
RIVER
LAKE
MICHIGAN
Key
120 - 150% ▨
100 - 120% ☐
80 - 100% ▧
92°
91°
90°
89°
88°
87°
46°
45°
44°
43°

Figure 2. Variation of the 1971 runoff compared with the long-term average runoff.

Fall streamflow was above normal at most gaging stations (see figure 3). Winter streamflow was above normal in the north and near or below normal in the south. Spring runoff was characterized by high April runoff in the north. Flow of the St. Croix River at St. Croix Falls was 175 percent of average for April. August runoff was above normal in many areas due to substantial rains near monthend.

Figures 4 and 5 show extremes of stage during the water year 1971 for selected lakes.

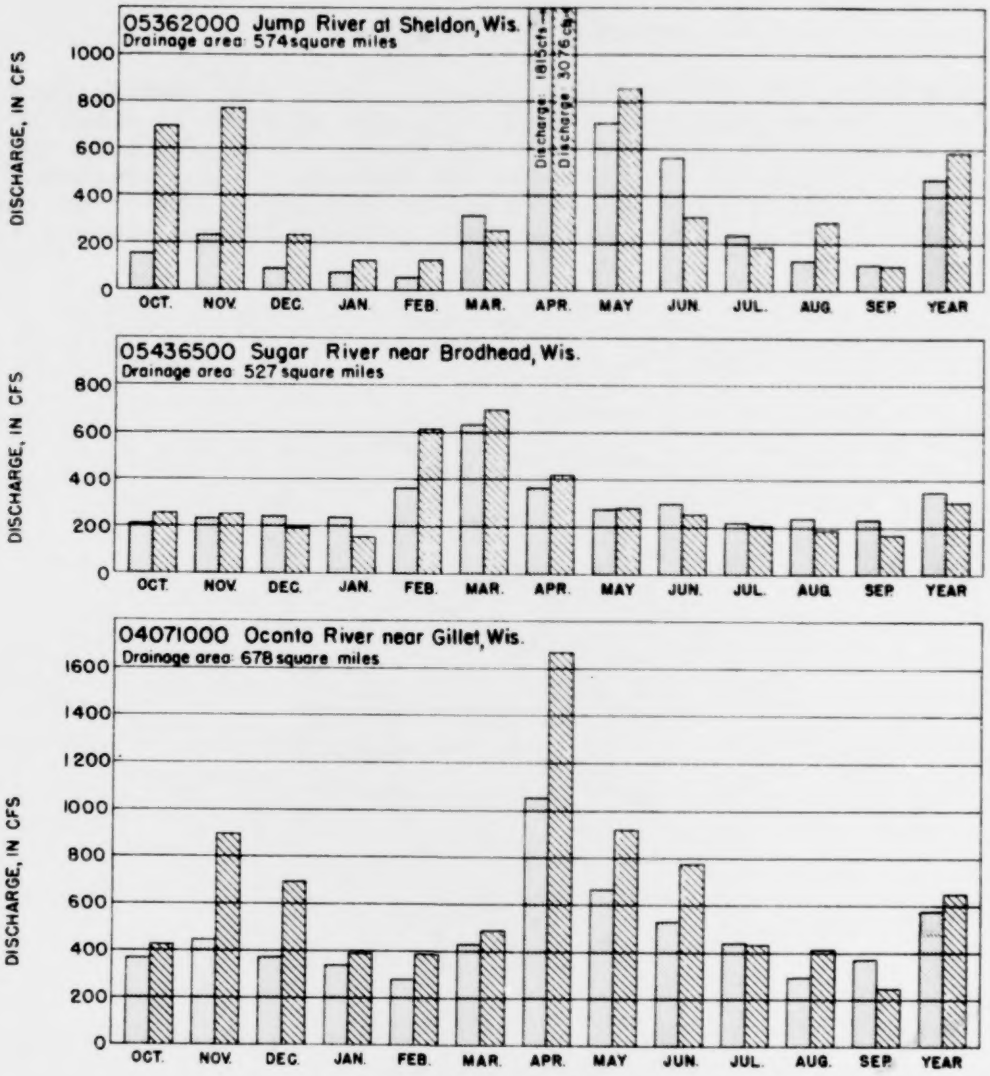
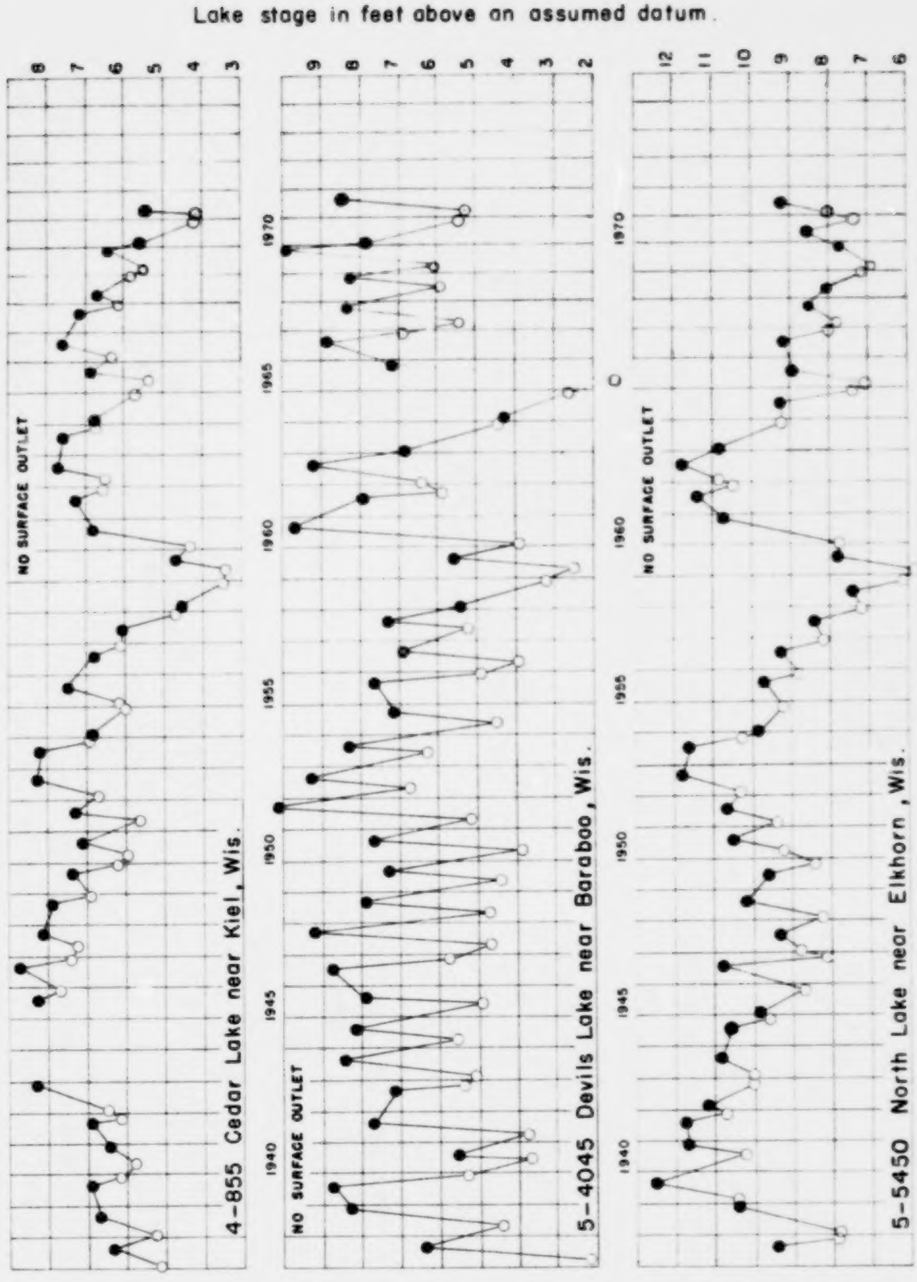


Figure 3. Comparison of discharge at three long-term representative gaging stations during 1971 water year with median discharge for period 1931-60.

☐ Median of monthly and yearly mean discharge for period 1931-60

▨ Monthly and yearly mean discharge for 1971 water year.



4-855 Cedar Lake near Kiel, Wis.

5-4045 Devils Lake near Baraboo, Wis.

5-5450 North Lake near Elkhorn, Wis.

Figure 4. A comparison of extremes of stage of three southern lakes for each water year since 1937.

● Maximum stage observed ○ Minimum stage observed Connecting lines do not indicate actual stage between extremes.

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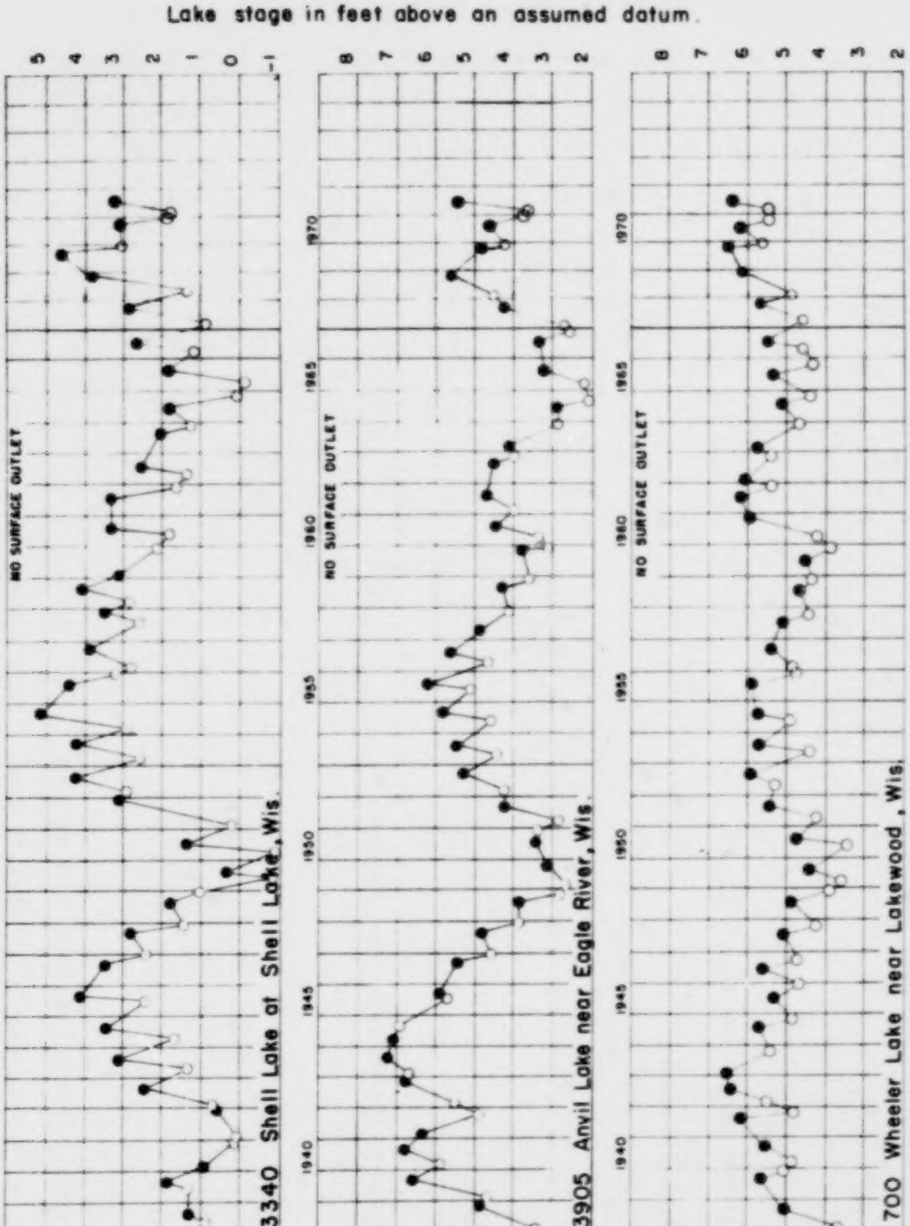

Figure 5. A comparison of extremes of stage of three northern lakes for each water year since 1937.

● Maximum stage observed ○ Minimum stage observed Connecting lines do not indicate actual stage between extremes

04025500 Bois Brule River at Brule, Wis.

LOCATION.--Lat 46°32'16", long 91°35'43", in NW 1/4 SW 1/4 sec.23, T.47 N., R.10 W., Douglas County, on right bank, 1.4 miles southwest of Brule Post Office, 1.4 miles downstream from Nebagamon Creek, and 1.7 miles upstream from Little Brule River.

DRAINAGE AREA.--120 sq mi (revised).

PERIOD OF RECORD.--October 1942 to current year. Prior to January 1943 monthly discharge only, published in WSP 1307.

GAGE.--Water-stage recorder. Datum of gage is 948.49 ft above mean sea level. Prior to October 1964, nonrecording gage at same site and datum supplemented by water-stage recorder part of 1959-62.

AVERAGE DISCHARGE.--29 years, 169 cfs (19.13 inches per year).

EXTREMES.--Current year: Maximum discharge, 943 cfs Apr. 12 (gage height, 4.27 ft); minimum discharge, 117 cfs Oct. 2-5.

Period of record: Maximum discharge, 1,520 cfs June 5, 1944 (gage height, 5.2 ft, from graph based on gage readings) from rating curve extended above 750 cfs; minimum observed, 67 cfs Mar. 13, 1943.

REMARKS.--Records good except those for winter periods, which are fair.

REVISIONS (WATER YEARS).--WSP 1207: Drainage area. WSP 1337: 1943(M), 1944, 1945-50(M).

Rating table (gage height, in feet, and discharge, in cubic feet per second). (Stage-discharge relation affected by ice Nov. 23-28, Dec. 4 to Mar. 4, Mar. 9.)

1.4	111	3.0	443
2.0	214	4.0	812

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	119	196	194	140	130	150	192	267	188	162	126	143
2	118	197	202	140	130	150	194	255	186	149	125	171
3	118	193	188	140	130	140	188	242	179	139	125	163
4	117	186	190	140	130	140	184	249	175	134	124	161
5	117	180	190	140	130	149	182	253	188	131	123	159
6	121	173	190	140	130	148	187	247	184	132	122	154
7	128	168	190	140	130	147	211	237	175	134	122	150
8	245	165	190	140	130	147	249	225	169	133	122	146
9	273	211	190	140	130	150	306	214	164	129	121	148
10	263	244	180	140	130	146	354	206	161	127	124	186
11	247	267	180	140	130	145	532	201	170	126	125	164
12	232	287	170	140	130	146	766	196	168	139	124	154
13	210	266	170	140	130	147	744	189	164	149	135	149
14	192	248	160	140	130	173	648	182	164	141	145	145
15	175	228	160	140	130	184	581	175	157	136	137	141
16	163	213	160	140	130	182	577	165	151	132	130	139
17	156	204	160	140	130	172	572	161	146	129	133	138
18	151	201	160	140	130	169	522	161	160	138	243	137
19	148	198	150	140	130	168	493	208	154	145	250	136
20	146	198	150	140	130	168	461	257	151	139	230	136
21	145	193	140	140	130	167	423	249	147	133	204	134
22	144	192	140	140	140	166	392	238	142	136	181	136
23	143	190	140	130	140	165	362	228	139	141	164	148
24	152	200	150	130	140	164	333	241	139	135	154	144
25	155	210	150	130	140	163	309	245	140	128	144	140
26	157	210	150	130	140	162	289	250	138	125	134	137
27	209	200	140	130	150	162	277	239	135	125	127	140
28	219	190	140	130	150	173	289	226	132	152	123	152
29	212	176	140	130	------	172	283	213	153	133	121	156
30	206	170	140	130	------	171	275	201	173	129	124	178
31	199	------	140	130	------	177	------	193	------	126	133	------
TOTAL	5,380	6,154	5,094	4,250	3,730	4,963	11,375	6,813	4,792	4,207	4,495	4,483
MEAN	174	205	164	137	133	160	379	220	160	136	145	149
MAX	273	287	202	140	150	184	766	267	188	162	250	186
MIN	117	165	140	130	130	140	182	161	132	125	121	134
CFSM	1.45	1.71	1.37	1.14	1.11	1.33	3.16	1.83	1.33	1.13	1.21	1.24
IN.	1.67	1.91	1.58	1.32	1.16	1.54	3.53	2.11	1.49	1.30	1.39	1.39

CAL YR 1970 TOTAL 60,678 MEAN 166 MAX 397 MIN 111 CFSM 1.38 IN 18.81
WTR YR 1971 TOTAL 65,736 MEAN 180 MAX 766 MIN 117 CFSM 1.50 IN 20.38

PEAK DISCHARGE (BASE, 300 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
11-27	1500	2.59	343	7-12	2200	4.27	943

04026100 Long Lake near Iron River, Wis.

LOCATION.--Lat 46°35'05", long 91°20'33", in SW 1/4 sec.35, T.48 N., R.8 W., Bayfield County, at residence of Melvin C. Platt, east side of lake, 3.6 miles northeast of Iron River.

DRAINAGE AREA.--1.28 sq mi. Area of Long Lake, 184 acres.

PERIOD OF RECORD.--October 1964 to current year (fragmentary).

GAGE.--Nonrecording gage. Altitude of gage is 1,096 ft (from topographic map).

EXTREMES.--Current year: Maximum gage height observed, 2.94 ft May 1; minimum observed, 2.00 ft Oct. 8, 10, 17. Period of record: Maximum gage height observed, 2.94 ft May 1, 1971; minimum observed, 1.39 ft Aug. 28, 1968.

REMARKS.--Lake has no surface outlet. Lake ice covered from Nov. 21 to Apr. 19.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								2.94				2.54
2												
3	2.05									2.53		
4				2.44								2.52
5									2.64			
6												
7		2.15					2.65			2.49	2.39	
8	2.00							2.64				
9												
10	2.00	2.30								2.53		
11												2.50
12									2.59			
13												
14		2.35									2.49	
15								2.59				
16												
17	2.00									2.49	2.47	
18												2.44
19									2.59			
20							2.69					
21		2.30						2.63			2.58	
22					2.54			2.64				
23												
24	2.05									2.51		
25												2.40
26									2.59			
27												
28												
29					------			2.59				
30					------							
31	2.20	------			------		------		------	2.39		------

04026450 Bad River near Mellen, Wis.

LOCATION.--Lat 46°16'14", long 90°42'26", in NE 1/4 NW 1/4 sec.26, T.44 N., R.3 W., Ashland County, Chequamegon National Forest, on left bank 150 ft downstream from bridge on U.S. Forest Service Road 184, 250 ft downstream from Iron River and 4.4 miles southwest of Mellen.

DRAINAGE AREA.--83.4 sq mi.

PERIOD OF RECORD.--October 1970 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,390 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 1,360 cfs Apr. 17 (gage height, 6.36 ft); minimum discharge, 8.2 cfs Aug. 8, 9, 13 (gage height, 0.70 ft).

REMARKS.--Records good except those for winter periods, which are fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	205	88	40	36	51	192	200	93	167	15	44
2	21	175	141	40	36	51	230	196	82	98	14	41
3	19	154	140	39	36	51	250	257	78	65	11	34
4	17	145	140	39	36	50	230	222	70	46	9.4	27
5	17	130	123	38	36	50	210	210	64	36	9.4	76
6	17	120	117	38	35	50	190	178	55	34	9.4	88
7	17	90	108	38	35	49	210	151	47	30	9.1	76
8	23	70	99	38	35	49	294	128	45	28	9.1	57
9	80	64	93	37	35	48	402	109	41	27	8.8	44
10	82	240	83	37	35	48	595	94	36	23	9.4	39
11	74	210	80	37	35	48	883	88	33	17	9.4	44
12	61	300	74	37	35	48	1,150	100	35	16	9.1	36
13	54	260	70	37	35	49	1,060	78	34	24	9.1	30
14	47	220	65	37	35	52	954	69	30	25	14	25
15	42	175	63	37	35	63	840	58	26	65	14	22
16	35	150	60	37	35	80	1,010	54	24	73	12	17
17	32	120	57	37	35	100	1,350	49	22	63	11	15
18	30	101	55	37	35	130	1,260	50	22	48	28	14
19	27	94	55	36	35	148	1,100	89	22	47	91	13
20	26	94	51	36	35	145	984	143	22	40	89	13
21	26	83	46	36	35	142	830	134	22	30	72	12
22	24	76	46	36	35	140	665	107	21	20	42	12
23	35	80	44	36	35	138	514	93	20	20	31	22
24	34	73	43	36	36	135	400	296	18	18	24	31
25	41	82	43	36	36	132	324	370	17	16	20	28
26	45	80	42	36	37	132	274	392	17	14	16	24
27	63	74	42	36	45	132	236	344	16	13	16	22
28	199	68	41	36	50	138	250	254	15	18	16	27
29	342	66	41	35	------	145	173	174	24	20	14	30
30	287	63	40	36	------	155	160	131	165	18	17	33
31	234	------	40	36	------	170	------	111	------	16	36	------
TOTAL	2,075	3,832	2,229	1,148	1,014	2,919	17,213	4,928	1,216	1,175	695.2	996
MEAN	66.9	129	71.9	37.0	36.2	94.2	574	159	40.5	37.9	22.4	33.2
MAX	342	300	141	40	50	170	1,350	392	165	167	91	88
MIN	17	63	40	36	35	48	160	49	15	13	8.8	12
CFSM	.80	1.55	.86	.44	.43	1.13	6.88	1.91	.49	.45	.27	.40
IN.	.93	1.73	.99	.51	.45	1.30	7.69	2.20	.54	.52	.31	.44

WTR YR 1971 TOTAL 39,496.2 MEAN 108 MAX 1,350 MIN 8.8 CFSM 1.30 IN 17.62

04027000 Bad River near Odanah, Wis.

LOCATION.--Lat 46°29'15", long 90°41'45", in SE 1/4 sec.2, T.46 N., R.3 W., Ashland County, on left bank just downstream from Elm Hoist Bridge, 5.0 miles downstream from Potato River, 8.5 miles south of Odanah, and 23 miles from mouth.

DRAINAGE AREA.--611 sq mi.

PERIOD OF RECORD.--July 1914 to December 1922 (monthly discharge only for some periods published in WSP 1307), May 1948 to current year.

GAGE.--Water-stage recorder. Datum of gage is 668.30 ft above mean sea level. May 17, 1948, to Nov. 6, 1959, and Oct. 19, 1960, to Nov. 23, 1961, water-stage recorder. Nov. 7, 1959, to Oct. 18, 1960, and Nov. 24, 1961, to July 12, 1962, nonrecording gage. Prior to Nov. 11, 1922, water-stage recorder at site 2 miles downstream at different datum.

AVERAGE DISCHARGE.--31 years (1914-22, 1948-71) 605 cfs (13.45 inches per year).

EXTREMES.--Current year: Maximum discharge, 10,700 cfs Apr. 12 (gage height, 13.08 ft); minimum, 95 cfs Aug. 9 (gage height, 2.21 ft).

Period of record: Maximum discharge, 27,700 cfs Apr. 24, 1960 (gage height, 21.7 ft from floodmarks), from rating curve extended above 12,000 cfs and comparison with contracted-opening measurement of peak flow (45,600 cfs) at Odanah, drainage area approximately 970 sq mi; minimum 49 cfs Aug. 8, 1964 (gage height, 2.03 ft).

Flood of June 24, 1946, reached a stage of at least 22.2 ft (top of bridge submerged), information from Indian Service.

REMARKS.--Records good except those for winter periods, which are fair.

REVISIONS (WATER YEARS).--WSP 1207: Drainage area. WSP 1337: 1922.

Rating table (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 23-25, Dec. 5 to Apr. 9.)

2.0	40	6.0	2,260
2.5	174	9.0	5,000
3.0	336	11.0	7,600
4.0	830	14.0	12,400

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	177	775	780	250	230	230	1,700	1,320	620	797	122	206
2	160	687	1,580	240	230	240	2,100	1,420	590	590	119	218
3	143	650	1,060	240	230	240	2,000	1,290	565	406	114	200
4	135	665	760	230	230	240	1,800	1,110	505	292	114	183
5	135	595	660	230	230	240	1,600	1,060	490	243	110	194
6	132	520	580	220	230	240	1,500	950	385	272	109	296
7	130	456	540	220	240	250	1,900	919	332	188	106	279
8	183	402	500	220	240	250	3,000	720	280	174	100	243
9	676	628	480	220	250	250	4,500	635	265	157	95	203
10	742	1,520	450	220	250	250	7,050	560	243	149	100	186
11	630	1,350	420	220	250	260	8,660	520	227	143	109	186
12	525	1,940	400	220	250	260	10,100	510	221	138	108	189
13	451	1,520	400	220	250	270	8,650	475	224	279	109	174
14	385	1,180	390	220	250	270	6,830	419	215	285	122	154
15	329	914	400	220	250	300	5,270	376	197	239	130	141
16	289	758	400	220	250	780	6,280	340	183	259	122	127
17	259	670	400	210	240	1,000	8,290	314	171	272	114	119
18	246	600	400	210	240	1,100	7,630	306	174	239	197	114
19	221	600	380	210	240	1,100	6,310	451	171	227	389	110
20	215	590	370	210	240	1,100	3,540	866	174	215	465	106
21	206	615	350	210	240	1,100	4,480	854	174	191	385	103
22	197	570	330	210	240	1,100	3,310	704	171	197	282	106
23	186	580	320	210	230	1,100	2,410	610	168	197	221	130
24	191	620	310	210	230	1,000	1,850	1,270	168	177	180	157
25	218	620	300	210	230	1,000	1,480	2,010	174	157	166	171
26	246	600	290	210	230	1,000	1,260	2,710	174	138	154	153
27	299	580	290	220	230	1,000	1,100	2,190	169	130	141	154
28	896	570	280	220	230	1,100	1,130	1,550	163	135	130	180
29	1,300	560	270	220	------	1,200	1,380	1,150	183	141	124	299
30	1,090	535	260	220	------	1,400	1,290	884	550	135	127	268
31	914	------	260	220	------	1,500	------	715	------	124	157	------
TOTAL	11,906	22,850	14,610	6,810	6,680	21,370	118,400	29,098	8,294	7,276	5,019	5,358
MEAN	384	762	471	220	239	689	3,947	939	276	235	162	179
MAX	1,300	1,940	1,580	250	250	1,500	10,100	2,710	620	797	465	299
MIN	130	402	260	210	230	230	1,100	306	163	124	95	103
CFSM	.63	1.25	.77	.36	.39	1.13	6.46	1.54	.45	.38	.27	.29
IN.	.72	1.39	.89	.41	.41	1.30	7.21	1.77	.50	.44	.31	.33

CAL YR 1970 TOTAL 172,037 MEAN 471 MAX 3,170 MIN 56 CFSM .77 IN 10.47
WTR YR 1971 TOTAL 257,670 MEAN 706 MAX 10,100 MIN 95 CFSM 1.16 IN 15.69

PEAK DISCHARGE (BASE, 3,000 CFS)

04027500 White River near Ashland, Wis.

LOCATION.--Lat 46°29'50", long 90°54'15", in NE 1/4 sec.6, T.46 N., R.4 W., Ashland County, at downstream end of powerplant of Lake Superior District Power Co., 0.3 mile downstream from bridge on State Highway 112 over dam, and 4.5 miles south of Ashland city limits.

DRAINAGE AREA.--279 sq mi (revised).

PERIOD OF RECORD.--May 1948 to current year.

GAGE.--Nonrecording gage. Datum of gage is 660.15 ft above mean sea level (Lake Superior District Power Co. bench mark).

AVERAGE DISCHARGE.--23 years, 286 cfs (13.92 inches per year).

EXTREMES.--Current year: Maximum discharge, 3,060 cfs Apr. 11 (gage height, 4.90 ft); minimum observed, 96 cfs Dec. 21 (gage height, 0.76 ft); minimum daily, 106 cfs Dec. 21.

Period of record: Maximum discharge, 6,270 cfs July 1, 1953 (gage height, 7.90 ft) from rating curve extended above 3,000 cfs; minimum, 3.1 cfs Apr. 28-30, 1949 (gage height, 0.09 ft).

REMARKS.--Records good except those for winter period, which are fair. Diurnal fluctuation caused by powerplant at gage.

REVISIONS.--WSP 1207: Drainage area.

Rating table (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Jan. 9-15, Jan. 17 to Mar. 14.)

0.8	104	2.0	585
.9	129	3.0	1,270
1.0	158	4.0	2,160
1.5	343	5.0	3,160

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	161	343	363	213	160	200	497	343	260	273	185	194
2	161	299	512	207	160	180	477	339	260	238	170	198
3	161	265	312	198	160	200	472	330	260	201	173	176
4	146	286	161	158	160	190	448	317	290	191	170	167
5	155	286	152	198	150	210	388	303	273	204	152	170
6	155	245	217	200	150	200	439	290	282	185	164	185
7	164	338	282	190	160	210	585	278	252	188	164	176
8	176	231	290	190	170	220	817	269	265	185	152	167
9	234	402	312	190	170	210	1,790	238	245	167	164	167
10	260	706	325	190	170	210	2,100	220	231	170	170	173
11	273	751	269	180	170	210	2,560	217	249	170	173	185
12	260	933	249	170	170	210	1,860	204	296	176	170	167
13	220	810	234	170	160	220	1,820	227	282	198	176	167
14	198	607	224	170	170	240	1,560	207	249	265	152	164
15	194	507	214	170	160	370	1,370	207	260	198	194	170
16	185	397	210	160	230	361	1,060	201	249	201	170	158
17	176	317	243	160	200	361	758	201	227	185	170	170
18	179	299	249	180	190	388	653	227	242	179	188	170
19	179	290	245	180	180	397	569	265	220	191	227	170
20	170	290	182	160	170	406	543	487	214	201	238	170
21	179	290	106	170	200	411	472	472	299	195	265	164
22	170	290	179	170	180	388	388	463	207	191	179	164
23	170	146	201	160	180	278	370	388	204	188	179	164
24	179	170	214	160	180	265	317	422	194	188	179	214
25	198	201	214	160	180	269	292	463	176	179	167	182
26	207	252	214	160	190	273	265	517	176	179	164	176
27	231	260	201	160	190	273	265	448	191	158	164	182
28	384	308	214	160	200	292	260	384	158	191	170	192
29	444	273	214	160	------	402	370	343	207	191	158	185
30	406	265	176	170	------	463	356	339	256	173	167	227
31	393	------	207	160	------	502	------	286	------	173	158	------
TOTAL	6,768	11,057	7,365	5,414	4,910	8,999	24,071	9,875	7,144	5,962	5,472	5,294
MEAN	218	369	238	175	175	290	802	319	238	192	177	176
MAX	444	933	512	213	230	502	2,560	517	299	273	265	227
MIN	146	146	106	158	150	180	260	201	158	158	152	158
CFSM	.78	1.32	.85	.63	.63	1.04	2.87	1.14	.85	.69	.63	.63
IN.	.90	1.47	.98	.72	.65	1.20	3.21	1.32	.95	.79	.73	.71

CAL YR 1970 TOTAL 90,432 MEAN 248 MAX 933 MIN 106 CFSM .89 IN 12.06
WTR YR 1971 TOTAL 102,311 MEAN 280 MAX 2,560 MIN 106 CFSM 1.00 IN 13.64

04031000 Black River near Bessemer, Mich.

LOCATION.--Lat 45°30'41", long 90°04'28", in NE 1/4 SE 1/4 sec.32, T.48 N., R.46 W., Gogebic County, on right bank 450 ft downstream from bridge on county highway, 500 ft downstream from Powder Mill Creek, and 2.5 miles northwest of Bessemer.

DRAINAGE AREA.--200 sq mi.

PERIOD OF RECORD.--October 1954 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,150 ft (from topographic map).

AVERAGE DISCHARGE.--17 years, 233 cfs (15.82 inches per year).

EXTREMES.--Current year: Maximum discharge, 5,040 cfs Apr. 17 (gage height, 9.55 ft); minimum, 18 cfs Sept. 16-22, minimum gage height, 0.61 ft Sept. 17, 22.

Period of record: Maximum discharge, 14,800 cfs Apr. 24, 1960 (gage height, 14.27 ft, from floodmark), from rating curve extended above 5,300 cfs on basis of slope-area measurement of peak flow; minimum, 7.8 cfs Sept. 9, 1970 (gage height, 0.36 ft).

REMARKS.--Records good except those for winter periods, which are poor. Prior to 1967, some ground water pumped from mines at Bessemer. Records of water temperatures for the current year are published in Part 2 of this report.

REVISIONS.--WSP 1911: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	220	160	68	50	61	190	603	226	362	46	44
2	25	193	270	67	50	64	210	582	254	196	40	41
3	24	174	300	65	50	66	225	502	254	129	36	37
4	23	160	300	64	49	67	210	442	223	89	33	34
5	23	143	280	62	49	68	200	421	199	68	29	34
6	23	131	250	60	49	68	300	382	160	56	28	32
7	27	115	230	58	48	67	649	344	138	47	28	30
8	53	103	210	57	48	66	845	309	141	44	27	27
9	73	102	185	55	48	66	1,290	277	110	37	26	25
10	78	120	170	54	48	67	1,580	247	94	32	28	26
11	66	134	155	54	47	68	2,550	225	84	29	26	26
12	62	193	145	54	47	70	3,160	213	76	97	26	24
13	60	180	130	53	48	73	2,920	192	68	403	29	23
14	54	160	125	53	48	80	2,620	170	60	230	36	22
15	49	142	120	52	48	95	2,640	154	52	147	30	20
16	45	128	115	52	48	120	3,650	133	45	113	26	19
17	42	115	105	51	49	160	4,860	121	40	91	25	18
18	39	112	105	51	50	210	4,470	120	41	71	127	19
19	37	115	100	51	50	230	4,170	220	38	61	234	18
20	39	125	98	51	51	220	3,810	252	40	52	210	18
21	39	120	95	51	52	200	3,450	240	36	64	156	19
22	37	120	92	51	53	180	2,490	210	33	482	120	19
23	37	100	90	50	53	170	1,840	187	36	408	92	34
24	44	170	86	50	53	160	1,290	564	45	248	77	29
25	54	200	82	50	54	150	966	839	60	162	73	28
26	60	190	80	50	56	145	784	938	53	118	69	26
27	70	180	78	50	57	140	659	713	45	92	62	25
28	188	160	76	50	59	140	651	527	38	89	55	35
29	265	150	74	50	------	140	651	400	210	74	48	40
30	233	145	73	50	------	145	593	313	714	61	44	47
31	240	------	70	50	------	150	------	258	------	52	42	------
TOTAL	2,134	4,404	4,445	1,684	1,412	3,706	53,912	11,098	3,613	4,204	1,928	839
MEAN	68.8	147	144	54.3	50.4	120	1,797	358	120	136	62.2	28.0
MAX	265	220	300	68	59	230	4,860	938	714	482	234	47
MIN	23	100	70	50	47	61	180	120	33	29	25	18
CFSM	.34	.74	.72	.27	.25	.60	8.99	1.79	.60	.68	.31	.14
IN.	.40	.82	.83	.31	.26	.69	10.03	2.06	.67	.78	.36	.16

CAL YR 1970 TOTAL 64,999.9 MEAN 178 MAX 1,510 MIN 8.4 CFSM .89 IN 12.07
WTR YR 1971 TOTAL 93,383.0 MEAN 256 MAX 4,860 MIN 18 CFSM 1.28 IN 17.37

PEAK DISCHARGE (BASE 1,500 CFS).--Apr. 17 (2200) 5,040 cfs (9.55 ft).

04031500 Presque Isle River at Marenisco, Mich.

LOCATION.--Lat 46°22'20", long 89°41'32", in SE 1/4 NW 1/4 sec.21, T.46 N., R.43 W., Gogebic County, on left bank 0.3 mile upstream from highway bridge in Marenisco, and 1.5 miles downstream from confluence of East and West Branches.

DRAINAGE AREA.--171 sq mi.

PERIOD OF RECORD.--February 1945 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,489.30 ft above mean sea level (levels by Michigan Department of Natural Resources). Prior to May 27, 1949, nonrecording gage at site 0.3 mile downstream at different datum.

AVERAGE DISCHARGE.--26 years, 175 cfs (13.90 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,700 cfs Apr. 18 (gage height, 8.52 ft); minimum, 39 cfs Oct. 19; minimum gage height, 3.52 ft Aug. 10.

Period of record: Maximum discharge, 3,520 cfs Apr. 25, 1960 (gage height, 11.25 ft); minimum observed, 13 cfs Sept. 30, 1948 (gage height, 2.25 ft, site and datum then in use).

REMARKS.--Records good except those for winter periods, which are fair. Occasional regulation for lake or pond level control at several places above station.

REVISIONS (WATER YEARS).--WSP 1707: 1954. WSP 1911: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	172	184	105	89	105	155	592	336	225	71	72
2	44	146	240	105	88	110	160	580	312	182	66	75
3	48	150	270	100	87	110	155	559	301	143	62	70
4	52	142	260	100	87	110	145	522	268	120	59	65
5	47	126	250	100	87	105	140	490	262	105	56	64
6	48	117	230	100	87	105	160	465	238	96	52	72
7	45	122	220	100	88	105	210	430	198	86	48	67
8	61	116	210	100	90	105	320	411	246	84	45	59
9	68	109	200	100	92	105	500	387	249	75	44	55
10	71	147	185	100	93	105	712	357	246	64	47	57
11	59	147	175	100	94	110	941	199	230	75	52	56
12	57	157	165	100	95	110	1,270	242	213	96	53	53
13	60	154	155	100	96	120	1,370	260	203	194	50	50
14	51	150	150	100	97	130	1,290	254	186	156	61	48
15	46	147	140	98	98	150	1,160	245	173	133	58	49
16	44	134	130	98	98	150	1,220	226	158	117	52	47
17	44	128	125	98	97	155	1,500	211	149	103	46	50
18	41	129	120	97	96	155	1,700	208	145	89	121	48
19	42	130	115	96	96	150	1,660	323	150	88	223	46
20	41	136	105	94	95	150	1,560	349	144	86	227	45
21	41	138	100	93	94	150	1,430	311	132	84	186	42
22	49	130	98	92	94	145	1,170	271	121	354	139	42
23	48	110	96	92	95	140	970	250	118	364	112	78
24	55	170	97	91	96	135	880	394	116	217	105	90
25	72	190	98	90	97	130	780	659	130	163	101	75
26	71	180	100	90	98	130	442	776	121	116	96	67
27	83	170	105	90	100	130	317	658	110	103	90	65
28	152	170	105	92	105	125	462	556	92	109	82	81
29	192	170	105	92	------	130	574	505	111	95	75	84
30	190	169	105	92	------	140	586	416	231	83	66	106
31	174	------	105	90	------	150	------	372	------	80	68	------
TOTAL	2,147	4,356	4,743	2,995	2,629	3,950	23,939	12,558	5,689	4,085	2,613	1,878
MEAN	69.3	145	153	96.6	93.9	127	798	405	190	132	84.3	62.6
MAX	192	190	270	105	105	155	1,700	776	336	364	227	106
MIN	41	109	96	90	87	105	140	199	92	64	44	42
CFSM	.41	.85	.89	.56	.55	.74	4.67	2.37	1.11	.77	.49	.37
IN.	.47	.95	1.03	.65	.57	.86	5.21	2.73	1.24	.89	.57	.41

CAL YR 1970 TOTAL 57,158 MEAN 157 MAX 1,560 MIN 18 CFSM .92 IN 12.43
WTR YR 1971 TOTAL 71,582 MEAN 196 MAX 1,700 MIN 41 CFSM 1.15 IN 15.57

NOTE.--No gage-height record Dec. 29 to Feb. 3.

04037500 Cisco Branch Ontonagon River at Cisco Lake Outlet, Mich.

LOCATION.--Lat 46°15'12", long 89°27'05", in E 1/2 sec.32, T.45 N., R.41 W., Gogebic County, on right bank 80 ft downstream from Cisco Lake Dam, 2.5 miles upstream from Langford Creek, 5.0 miles upstream from U.S. Highway 2, and 13 miles west of Watersmeet.

DRAINAGE AREA.--50.7 sq mi.

PERIOD OF RECORD.--October 1944 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,672.69 ft above mean sea level. Prior to Oct. 1, 1968, nonrecording gage at same site at datum 4.0 ft higher.

AVERAGE DISCHARGE.--27 years, 46.5 cfs (12.46 inches per year).

EXTREMES.--Current year: Maximum discharge, 190 cfs July 22 (gage height, 5.60 ft); minimum daily, 0.22 cfs Oct. 16-19; minimum gage height, 3.83 ft Oct. 16-22.
Period of record: Maximum discharge, 288 cfs May 1-4, 1951 (gage height, 6.10 ft, present datum); minimum daily, 0.13 cfs Aug. 4-7, Aug. 22 to Sept. 5, 1970.

REMARKS.--Records fair. Flow regulated by Cisco Lake (usable capacity, 15,600 acre-ft).

REVISIONS.--WSP 1911: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.31	155	74	39	55	55	53	43	96	106	30	2.1
2	.24	149	86	40	54	54	53	66	87	104	30	17
3	.27	144	73	40	52	54	53	94	77	101	17	30
4	.28	140	68	55	52	53	53	107	121	58	5.8	44
5	8.4	138	80	73	57	53	52	111	172	51	4.7	58
6	23	134	88	71	57	52	52	108	165	3.7	4.3	56
7	46	130	87	70	57	53	52	84	144	2.5	4.1	38
8	94	127	85	69	56	52	53	55	106	2.0	3.8	13
9	133	124	84	61	56	52	68	30	93	1.9	2.9	.40
10	142	120	78	53	54	40	83	24	92	1.9	19	.40
11	123	118	66	43	53	31	85	19	67	1.7	30	.40
12	45	115	49	32	52	32	89	30	25	1.4	30	.37
13	8.8	111	39	33	52	32	93	34	25	1.4	30	.37
14	4.1	105	39	33	51	34	97	36	16	1.4	30	.37
15	.25	103	39	33	32	54	100	31	6.3	1.3	30	.40
16	.22	100	39	33	22	76	105	25	6.7	19	30	.37
17	.22	99	38	33	22	82	112	31	3.3	33	30	.37
18	.22	97	38	33	22	80	119	38	23	33	44	.37
19	.22	94	38	33	24	79	123	77	50	33	82	.37
20	.25	94	38	34	40	78	125	103	50	33	93	.37
21	.25	94	38	34	57	77	97	106	49	35	91	.37
22	.30	90	38	34	56	66	97	116	49	116	88	.37
23	45	92	39	34	55	50	102	110	48	179	48	.55
24	81	91	40	34	55	50	63	116	48	173	29	23
25	81	90	39	35	54	49	14	143	48	163	17	43
26	79	89	40	36	54	34	15	160	48	88	2.9	42
27	104	88	40	47	56	22	17	149	47	32	2.7	41
28	152	86	40	56	56	24	18	135	32	32	2.6	42
29	167	86	39	56	------	37	20	121	32	33	2.1	40
30	163	72	40	56	------	53	21	104	84	31	1.9	53
31	160	------	39	55	------	52	------	100	------	31	1.9	------
TOTAL	1,662.33	3,275	1,658	1,388	1,363	1,610	2,084	2,506	1,910.3	1,543.2	837.7	547.95
MEAN	53.6	109	53.5	44.8	48.7	51.9	69.5	80.8	63.7	49.8	27.0	18.3
MAX	167	155	88	73	57	82	125	160	172	179	93	58
MIN	.22	72	38	32	22	22	14	19	3.3	1.3	1.9	.37

CAL YR 1970 TOTAL 15,356.28 MEAN 42.1 MAX 221 MIN .13 CFSM .83 IN 11.27
WTR YR 1971 TOTAL 20,385.48 MEAN 55.9 MAX 179 MIN .22 CFSM 1.10 IN 14.93

04061000 Brule River near Florence, Wis.

LOCATION.--Lat 45°57'31", long 88°15'57", in SE 1/4 SE 1/4 sec.11, T.41 N., R.32 W., Michigan meridian, Iron County, on left bank 40 ft upstream from highway bridge, 1 mile upstream from Paint River, 2.5 miles north of Florence, and 5.0 miles upstream from confluence with Michigamme River.

DRAINAGE AREA.--389 sq mi.

PERIOD OF RECORD.--January 1914 to February 1916, June 1944 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,210 ft (from topographic map). Prior to Aug. 29, 1944, nonrecording gage at bridge 40 ft downstream at same datum.

AVERAGE DISCHARGE.--28 years (1914-15, 1944-71), 352 cfs (12.29 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,960 cfs Apr. 14 (gage height, 4.32 ft); maximum gage height, 5.89 ft Feb. 27 (backwater from ice); minimum discharge, 216 cfs Aug. 9, 10 (gage height, 1.99 ft).
Period of record: Maximum discharge, 4,700 cfs July 2, 1953 (gage height, 6.57 ft); maximum gage height, 8.27 ft Dec. 26, 1969 (backwater from ice); minimum discharge, 118 cfs Dec. 2, 1963 (discharge measurement); minimum gage height, 1.79 ft July 24, 1964.

REMARKS.--Records excellent except those for winter periods, which are fair. Discharge includes some mine pumpage (see sta 04060500).

REVISIONS (WATER YEARS).--WSP 1387: 1914-16. WSP 1911: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	289	625	430	310	270	340	430	686	409	362	245	300
2	287	555	500	310	270	330	425	682	388	329	241	275
3	278	548	580	300	275	325	410	615	380	310	241	256
4	279	551	550	290	280	320	400	560	370	297	237	246
5	283	493	530	290	270	315	400	529	424	290	230	248
6	272	443	500	280	255	310	410	507	418	287	225	244
7	268	409	480	280	280	305	430	478	426	284	222	247
8	275	379	470	280	305	300	500	451	578	283	221	231
9	287	370	450	280	310	300	662	437	515	274	219	227
10	290	394	440	280	310	300	888	428	439	262	233	333
11	281	354	410	285	315	305	1,180	405	401	258	260	323
12	269	377	400	285	320	310	1,710	401	386	256	246	283
13	267	364	380	285	320	325	1,940	354	440	324	239	258
14	261	344	370	285	320	350	1,930	380	452	317	279	252
15	256	326	360	285	320	370	1,780	366	409	281	274	240
16	252	326	350	280	315	380	1,690	356	372	272	249	234
17	248	319	350	280	310	390	1,790	350	351	270	236	230
18	248	315	350	280	310	400	1,900	364	349	269	228	231
19	245	320	350	280	310	400	1,800	432	432	327	249	245
20	242	392	340	280	310	400	1,510	433	432	301	258	268
21	245	477	340	270	315	390	1,270	359	394	277	244	264
22	245	441	330	270	315	380	1,100	374	362	274	247	255
23	249	280	330	270	320	340	938	356	340	288	242	270
24	346	350	320	270	325	310	815	432	333	272	235	287
25	501	400	320	270	330	310	729	604	376	259	254	270
26	441	400	320	280	335	315	662	707	384	245	255	259
27	402	390	320	290	340	320	612	602	345	242	245	264
28	719	380	320	290	345	340	632	510	326	266	235	280
29	959	380	320	285	------	380	655	456	333	279	226	330
30	813	390	320	280	------	420	618	426	399	262	278	400
31	747	------	320	275	------	430	------	418	------	251	324	------
TOTAL	11,044	12,132	12,150	8,775	8,600	10,710	30,216	14,538	11,963	8,768	7,617	8,050
MEAN	356	404	392	283	307	345	1,007	469	399	283	246	268
MAX	959	625	580	310	345	430	1,940	707	578	362	324	400
MIN	242	280	320	270	255	300	400	350	326	242	219	227
CFSM	.92	1.04	1.01	.73	.79	.89	2.59	1.21	1.03	.73	.63	.69
IN.	1.06	1.16	1.16	.84	.82	1.02	2.89	1.39	1.14	.84	.73	.77

CAL YR 1970 TOTAL 128,999 MEAN 353 MAX 1,550 MIN 210 CFSM .91 IN 12.34
WTR YR 1971 TOTAL 144,563 MEAN 396 MAX 1,940 MIN 219 CFSM 1.02 IN 13.82

04063000 Menominee River near Florence, Wis.

LOCATION.--Lat 45°57'04", long 88°11'13", in NE 1/4 sec.16, T.41 N., R.31 W., Michigan meridian, Iron County, on left bank 0.5 mile downstream from confluence of Brule and Michigamme Rivers, 3.5 miles northeast of Florence, and at mile 117.

DRAINAGE AREA.--1,780 sq mi.

PERIOD OF RECORD.--January 1914 to current year. Published as "at Twin Falls near Iron Mountain, Mich." 1914-57. Records published for both sites July 1950 to September 1957.

GAGE.--Water-stage recorder. Altitude of gage is 1,120 ft (from topographic map). Prior to July 1950, headwater and tailwater gages and generation data entered hourly in daily log sheets by company employees at the Twin Falls Powerplant of Wisconsin-Michigan Power Co., 10.4 miles downstream.

AVERAGE DISCHARGE.--57 years, 1,783 cfs.

EXTREMES.--Current year: Maximum discharge, 10,200 cfs Apr. 18 (gage height, 9.79 ft); minimum, 202 cfs Oct. 4 (gage height, 1.87 ft); minimum daily, 484 cfs Sept. 11.

Period of record: Maximum discharge, 19,500 cfs Apr. 26, 1960 (gage height, 14.15 ft); minimum, 38 cfs Aug. 21, 1962; minimum gage height, 1.18 ft Aug. 21, 1962, Nov. 4, 1965; minimum daily discharge, 154 cfs Aug. 9, 1925.

REMARKS.--Records good. Prior to July 1950 discharge determined from powerplant records computed on basis of load-discharge rating of hydroelectric units and rating for tailwater gage during periods of spill. Rating developed by Geological Survey. Flod regulated by powerplants, and by Michigamme Reservoir (capacity, 119,950 ft) and Peavy Pond (capacity, 33,860 acre-ft) on Michigamme River, and by many smaller reservoirs above station.

REVISIONS (WATER YEARS).--WSP 1707: 1953(M). WSP 1911: Drainage area of former site.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,150	3,080	2,370	1,870	2,100	2,250	2,330	3,260	2,790	1,790	1,020	1,160
2	922	2,470	2,660	2,080	1,750	2,170	2,260	3,910	2,380	1,890	1,210	1,420
3	747	2,830	2,300	1,870	1,740	2,160	1,760	3,740	2,420	2,030	1,580	1,810
4	857	2,780	2,210	1,840	1,660	2,210	1,730	3,880	2,470	2,000	1,230	586
5	955	2,710	2,250	1,940	1,560	2,290	2,030	4,050	2,110	1,640	1,620	737
6	989	2,280	2,190	1,990	1,290	2,110	1,960	3,950	1,750	1,630	1,390	640
7	986	1,610	2,110	2,020	1,290	1,910	2,260	3,850	2,150	1,890	922	1,530
8	1,090	1,770	2,100	1,930	1,740	1,740	2,530	3,270	2,110	1,700	897	1,320
9	1,120	1,950	2,070	1,820	1,670	1,850	2,880	3,580	2,060	1,730	1,710	1,000
10	1,090	2,670	2,040	1,860	1,110	1,700	2,900	3,340	2,020	1,120	1,510	1,190
11	954	2,540	1,970	2,130	1,290	1,800	3,340	2,820	1,570	1,190	1,280	484
12	1,080	1,890	2,110	1,900	1,610	2,010	4,070	2,480	1,820	1,740	1,340	537
13	1,210	1,800	2,120	2,040	1,280	2,000	5,580	2,530	1,480	1,620	1,270	1,240
14	1,400	1,290	1,880	2,020	1,170	2,090	6,360	2,380	1,580	1,720	956	1,050
15	1,170	1,170	1,850	2,020	1,660	2,290	6,220	1,930	1,720	1,840	841	953
16	1,140	1,620	1,780	1,790	1,680	2,300	6,000	1,750	1,570	1,810	1,350	996
17	914	1,460	1,870	2,000	1,810	2,500	7,260	2,160	1,810	1,460	1,320	942
18	869	1,780	1,980	2,140	2,140	2,400	9,280	2,180	1,610	1,220	1,360	536
19	1,090	1,750	1,910	2,010	2,170	2,360	9,920	2,380	1,470	1,730	1,270	827
20	1,120	1,730	1,760	2,050	2,230	2,270	8,620	2,180	1,270	1,710	1,430	1,130
21	1,100	1,980	1,630	1,860	2,410	2,130	6,920	2,350	2,080	1,640	949	1,220
22	1,120	1,980	1,630	1,920	2,160	2,150	6,360	2,360	1,810	1,610	878	1,120
23	1,040	1,900	1,840	1,760	2,130	1,680	5,410	2,350	1,780	1,600	1,340	998
24	1,090	1,560	1,860	1,780	2,060	1,820	4,440	2,650	1,730	1,020	1,360	898
25	1,280	1,420	1,480	1,910	2,220	1,900	4,100	3,010	1,800	950	1,210	734
26	1,300	1,380	1,550	2,090	2,160	1,680	3,740	3,400	1,870	1,500	1,300	738
27	1,430	1,830	1,820	2,040	2,260	2,180	3,750	3,130	1,550	1,480	1,160	1,200
28	2,180	1,500	1,860	1,950	2,160	2,040	3,730	3,040	1,860	1,450	758	1,180
29	2,640	1,600	2,190	2,220	------	2,200	3,780	2,850	1,740	1,510	834	1,070
30	2,450	1,990	1,910	1,870	------	2,360	3,060	3,070	1,930	1,500	1,410	1,330
31	3,070	------	1,740	1,620	------	2,370	------	3,300	------	1,100	1,280	------
TOTAL	39,543	58,320	60,940	60,340	50,520	64,920	134,980	91,210	56,710	48,820	37,985	30,576
MEAN	1,276	1,944	1,966	1,946	1,804	2,094	4,499	2,942	1,890	1,575	1,225	1,019
MAX	3,070	3,080	2,660	2,220	2,410	2,500	9,920	4,050	2,790	2,030	1,710	1,810
MIN	747	1,170	1,480	1,620	1,110	1,680	1,730	1,750	1,270	950	758	484

CAL YR 1970 TOTAL 614,471 MEAN 1,683 MAX 10,600 MIN 574
WTR YR 1971 TOTAL 734,864 MEAN 2,013 MAX 9,920 MIN 484

04063700 Popple River near Fence, Wis.
(Hydrologic benchmark station)

LOCATION.--Lat 45°45'49", long 88°27'47", in NW 1/4 sec.23, T.38 N., R.16 E., Florence County, on left bank 20 ft upstream from bridge on U.S. Forest Service road 2159, 1.8 miles downstream from Mud Creek, 2.6 miles northwest of Fence, and 11.5 miles upstream from mouth.

DRAINAGE AREA.--131 sq mi.

PERIOD OF RECORD.--October 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,406.16 ft above mean sea level. Prior to June 18, 1964, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--8 years, 120 cfs (12.44 inches per year).

EXTREMES.--Current year: Maximum discharge, 825 cfs Apr. 20 (gage height, 3.59 ft); minimum, 26 cfs Aug. 9 (gage height, 1.15 ft).
Period of record: Maximum discharge, 1,100 cfs May 10, 1965 (gage height, 4.17 ft); minimum, 15 cfs July 19, 23, 24, 1964 (gage height, 1.04 ft).

REMARKS.--Records good except those for winter months, which are fair. Records of chemical analysis, water temperatures, and suspended sediment loads for the water year 1971 are published in Part 2 of this report.

Rating table (gage height, in feet, and discharge, in cubic feet per second). (Shifting-control method used Oct. 7-25, Apr. 13 to May 14, Sept. 30; stage-discharge relation affected by ice Nov. 23 to Mar. 13, Mar. 19, Mar. 23 to Apr. 12.)

1.0	17	2.2	230
1.4	50	2.6	360
1.8	120	3.0	520
		3.7	860

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	94	360	100	58	50	92	90	296	118	48	44	48
2	94	328	120	55	50	86	92	290	108	44	40	50
3	78	348	140	54	50	80	96	272	100	42	37	42
4	74	352	150	54	50	78	98	254	92	40	40	40
5	69	332	140	52	50	72	100	236	88	39	33	42
6	62	302	130	52	50	68	110	215	78	38	31	41
7	56	272	120	52	50	66	110	188	76	39	29	37
8	52	242	110	52	50	64	130	160	96	46	29	35
9	53	215	100	50	50	64	170	138	116	48	28	34
10	53	206	94	50	50	64	230	125	118	49	34	50
11	54	192	88	50	52	66	330	116	106	46	41	77
12	53	158	84	50	52	70	500	112	94	43	43	78
13	50	142	80	49	52	76	620	110	100	44	41	74
14	50	122	78	49	52	104	665	102	102	43	43	65
15	46	108	76	49	52	140	620	92	92	40	46	56
16	46	104	74	49	52	142	630	86	82	39	35	49
17	44	96	74	49	54	140	695	80	76	40	36	44
18	48	92	72	49	56	132	765	82	72	41	33	41
19	44	90	72	50	58	120	815	116	94	53	35	41
20	43	108	70	50	56	118	820	150	125	56	38	52
21	42	132	70	50	56	108	795	150	125	49	38	53
22	43	135	68	50	56	102	730	130	112	46	41	53
23	42	120	68	50	56	94	650	114	98	47	35	58
24	65	94	68	50	56	90	560	135	88	41	37	54
25	108	110	68	50	56	86	496	212	80	38	39	52
26	125	120	65	50	58	84	432	245	74	35	43	53
27	138	130	66	50	120	82	376	245	68	34	41	50
28	245	100	64	50	100	80	352	224	60	37	38	54
29	348	98	64	50	------	78	324	194	56	40	34	58
30	376	94	62	50	------	80	299	155	56	46	36	145
31	384	------	60	50	------	82	------	132	------	48	44	------
TOTAL	3,071	5,292	2,696	1,574	1,594	2,808	12,700	5,156	2,750	1,339	1,170	1,626
MEAN	99.1	176	87.0	50.8	56.9	90.6	423	166	91.7	43.2	37.7	54.2
MAX	384	360	150	58	120	142	820	296	125	56	46	145
MIN	42	90	60	49	50	64	90	80	56	34	28	34
CFSM	.76	1.34	.66	.39	.43	.69	3.23	1.27	.70	.33	.29	.41
IN.	.87	1.50	.77	.45	.45	.80	3.61	1.46	.78	.38	.33	.46

CAL YR 1970 TOTAL 34,023 MEAN 93.2 MAX 468 MIN 22 CFSM .71 IN 9.66
WTR YR 1971 TOTAL 41,776 MEAN 114 MAX 820 MIN 28 CFSM .87 IN 11.86

PEAK DISCHARGE (BASE, 300 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
10-31	0300	2.68	392	4-20	0100	3.59	825

04064500 Pine River below Pine River Powerplant, near Florence, Wis.

LOCATION.--Lat 45°50'16", long 88°13'31", in SW 1/4 sec.22, T.39 N., R.18 E., Florence County, on left bank 60 ft upstream from bridge on County Trunk N, 1.9 miles downstream from powerplant of Wisconsin-Michigan Power Co., 6.0 miles south of Florence, and 7.0 miles downstream from Popple River.

DRAINAGE AREA.--528 sq mi.

PERIOD OF RECORD.--October 1923 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,098.84 ft above mean sea level. Prior to October 1968, record obtained from Pine River powerplant 1.9 miles upstream with a drainage area of 528 sq mi.

AVERAGE DISCHARGE.--48 years, 425 cfs (10.93 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,780 cfs Apr. 19 (gage height, 7.13 ft); minimum daily, 124 cfs Aug. 6.

Period of record: Maximum daily discharge, 4,380 cfs Apr. 9, 1929; no flow at times during 1924, 1926-27, 1930-31, 1933, 1940.

REMARKS.--Records good except those for winter months, which are fair. Flow regulated by Pine River powerplant 1.9 miles upstream; pondage is small and monthly discharge is very nearly natural flow.

REVISIONS.--WSP 1237: Drainage area.

Rating table (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 4-8, Dec. 10 to Apr. 8.)

1.7	107	4.0	885
2.2	224	6.0	2,000
3.0	470	7.2	2,840

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	335	1,240	468	340	240	310	360	1,100	500	285	155	196
2	344	1,100	641	330	240	330	370	1,060	489	250	235	266
3	326	1,160	656	300	240	330	390	1,040	392	193	173	286
4	317	1,170	640	250	260	330	400	926	457	251	187	167
5	306	1,120	660	310	250	310	420	908	392	254	180	192
6	203	973	680	270	200	320	500	850	347	292	124	174
7	311	860	640	280	200	310	540	760	436	186	176	243
8	208	772	600	310	230	310	640	673	435	226	158	208
9	303	756	521	280	240	310	925	638	539	254	191	190
10	257	681	560	320	240	290	1,270	577	558	199	200	220
11	201	630	500	300	240	310	1,700	546	428	206	187	344
12	255	633	450	280	240	260	2,300	517	355	263	191	311
13	253	629	380	310	240	310	2,490	542	471	258	159	289
14	262	570	350	290	240	280	2,440	446	508	231	202	370
15	239	477	380	300	240	320	2,160	430	604	201	204	202
16	181	461	370	310	240	350	2,160	412	467	204	263	277
17	196	335	360	260	220	360	2,260	434	380	202	238	172
18	196	398	390	280	230	390	2,480	427	344	204	188	199
19	260	422	400	310	240	370	2,440	503	452	218	192	199
20	214	471	350	240	240	310	2,440	649	608	222	161	255
21	207	550	290	290	240	340	2,340	649	709	261	220	264
22	214	582	240	270	240	370	2,200	561	635	278	205	230
23	202	436	300	260	240	390	2,010	528	522	223	262	246
24	281	289	340	260	240	350	1,700	574	428	221	244	188
25	464	465	320	270	240	310	1,460	820	448	192	184	235
26	554	492	290	260	260	320	1,310	1,200	330	235	196	255
27	625	526	330	220	280	350	1,220	1,100	300	190	199	267
28	864	389	310	210	250	370	1,160	880	336	192	196	312
29	1,360	432	290	260	------	350	1,160	800	329	184	194	277
30	1,370	497	320	250	------	340	1,060	680	363	230	284	581
31	1,410	------	340	220	------	340	------	600	------	202	249	------
TOTAL	12,718	19,516	13,366	8,640	6,740	10,240	44,295	21,830	13,562	7,007	6,235	7,615
MEAN	410	651	431	279	241	330	1,477	704	452	226	201	254
MAX	1,410	1,240	680	340	290	390	2,490	1,200	709	292	284	581
MIN	181	289	240	210	200	260	360	412	300	184	124	167
CFSM	.78	1.23	.82	.53	.46	.63	2.80	1.33	.86	.43	.38	.48
IN.	.90	1.37	.94	.61	.47	.72	3.12	1.54	.96	.49	.44	.54

CAL YR 1970 TOTAL 145,918 MEAN 400 MAX 1,870 MIN 66 CFSM .76 IN 10.28
WTR YR 1971 TOTAL 171,768 MEAN 471 MAX 2,480 MIN 124 CFSM .89 IN 12.10

04066000 Menominee River near Pembine, Wis.

LOCATION.--Lat 45°35'24", long 87°46'34", in sec.21, T.37 N., R.28 W., Michigan meridian, Menominee County, Mich., on left bank 0.1 mile upstream from Pemene Creek, 4.0 miles west of Nathan, Mich., 15 miles southeast of Pembine, and at mile 65.3.

DRAINAGE AREA.--3,240 sq mi, approximately.

PERIOD OF RECORD.--October 1949 to current year. Monthly discharge only for some periods, published in WSP 1307.

GAGE.--Water-stage recorder. Altitude of gage is 745 ft (from river-profile map).

AVERAGE DISCHARGE.--22 years, 2,942 cfs.

EXTREMES.--Current year: Maximum discharge, 15,800 cfs Apr. 19 (gage height, 10.20 ft); minimum, 877 cfs Sept. 13 (gage height, 1.83 ft).
Period of record: Maximum discharge, 26,900 cfs May 8, 1960 (gage height, 13.90 ft); minimum, 694 cfs Sept. 3, 1969 (gage height, 1.66 ft).

REMARKS.--Records good except those for winter months, which are poor. Flow regulated by powerplants and by Michigamme Reservoir (capacity, 119,950 acre-ft) and Peavy Pond (capacity, 33,860 acre-ft) on the Michigamme River, and by many smaller reservoirs above station.

REVISIONS (WATER YEARS).--WSP 1277: 1952.

Rating table (gage height, in feet, and discharge, in cubic feet per second). (Shifting-control method used Oct. 1-29; stage-discharge relation affected by ice Nov. 26-28, Dec. 3 to Apr. 12.)

1.8	855	6.0	6,470
2.5	1,500	8.0	10,400
4.0	3,330	10.5	16,700

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,840	5,960	3,160	2,500	1,900	2,400	3,400	5,190	4,550	2,800	1,390	1,780
2	1,660	5,490	4,420	2,000	2,000	2,400	3,200	6,080	4,020	2,400	1,480	1,800
3	1,550	5,080	4,000	2,100	2,000	2,500	3,300	6,160	3,470	2,960	1,590	1,640
4	1,320	5,470	3,500	2,200	1,900	2,500	2,900	5,730	3,360	2,650	1,740	2,030
5	1,420	4,880	3,300	2,300	1,800	2,600	3,100	6,160	3,300	2,910	1,730	1,300
6	1,520	4,760	3,500	2,200	1,800	2,500	3,500	5,550	3,230	2,570	1,610	1,130
7	1,460	3,880	3,700	2,100	1,800	2,500	4,000	5,850	2,830	2,520	1,470	1,340
8	1,560	3,240	4,000	2,100	1,700	2,200	5,000	4,880	3,380	2,440	1,260	1,440
9	1,580	3,120	4,100	2,300	1,600	2,200	6,000	4,700	3,520	2,180	1,430	1,330
10	1,490	3,980	4,000	2,300	1,800	2,100	9,000	4,980	3,520	2,150	1,880	1,480
11	1,490	3,990	3,600	2,200	1,900	2,100	11,000	4,310	3,190	1,590	1,850	1,370
12	1,360	3,240	3,300	2,300	1,800	2,300	12,000	4,100	3,150	1,730	1,770	1,130
13	1,610	3,080	3,100	2,400	1,600	2,400	12,400	3,710	3,000	2,060	1,580	1,170
14	1,590	2,750	2,800	2,400	1,600	2,500	14,100	3,610	2,610	2,070	1,430	1,270
15	1,760	2,500	2,700	2,300	1,700	3,300	13,200	3,310	2,390	2,190	1,220	1,460
16	1,890	2,100	2,600	2,200	1,800	3,200	12,500	3,020	2,920	2,240	1,300	1,450
17	1,600	2,270	2,600	2,100	2,000	3,200	12,100	2,700	2,920	2,320	1,810	1,400
18	1,130	2,310	2,700	2,100	2,000	3,100	13,500	3,040	2,370	1,990	1,410	1,240
19	1,320	2,670	2,500	2,700	2,100	2,900	15,600	3,910	2,310	1,710	1,850	1,140
20	1,670	2,850	2,100	2,300	2,200	3,200	15,000	4,460	2,900	2,170	1,840	1,280
21	1,680	3,220	2,100	2,200	2,300	3,100	13,000	4,650	2,800	2,220	1,520	1,350
22	1,600	3,390	2,100	2,200	2,200	3,000	11,400	4,160	2,800	2,090	1,190	1,650
23	1,540	3,380	2,300	2,200	2,100	2,900	10,300	3,930	2,900	2,340	1,330	1,510
24	1,750	3,180	2,300	2,100	2,400	2,800	8,730	4,050	2,800	2,050	1,630	1,570
25	1,740	2,550	2,000	2,000	2,300	2,500	7,430	5,180	2,500	1,390	1,820	1,410
26	2,100	2,200	1,900	2,000	2,400	2,300	6,910	5,730	2,400	1,540	1,770	1,190
27	2,540	2,400	2,000	2,100	2,300	2,800	6,130	6,220	2,300	1,900	1,420	1,260
28	3,380	3,300	2,300	2,200	2,300	2,800	6,630	5,830	2,200	1,960	1,330	1,820
29	4,940	3,670	2,700	2,100	------	3,000	6,080	4,920	2,500	2,010	1,170	2,000
30	5,360	2,990	2,500	2,000	------	3,200	6,310	4,720	3,000	1,810	1,360	1,870
31	5,670	------	2,600	2,000	------	3,400	------	4,660	------	1,820	1,510	------
TOTAL	63,120	103,320	90,480	67,700	55,200	83,700	257,720	145,500	89,240	66,760	47,690	43,830
MEAN	2,036	3,444	2,919	2,184	1,971	2,700	8,591	4,694	2,975	2,154	1,538	1,461
MAX	5,670	5,960	4,420	2,500	2,400	3,400	15,600	6,220	4,550	2,960	1,880	2,030
MIN	1,130	2,100	1,900	2,000	1,600	2,100	2,900	2,700	2,200	1,390	1,170	1,130

CAL YR 1970 TOTAL 953,570 MEAN 2,613 MAX 15,200 MIN 1,120
WTR YR 1971 TOTAL 1,114,260 MEAN 3,053 MAX 15,600 MIN 1,130

04067000 Menominee River below Koss, Mich.

LOCATION.--Lat 45°21'16", long 87°38'55", in sec.9, T.3. N., R.27 W., Michigan meridian, Menominee County, on left bank at powerplant of Wisconsin Public Service Corp., 0.5 mile upstream from Little Cedar River, 3.6 miles southeast of Koss, and at mile 24.7.

DRAINAGE AREA.--3,790 sq mi, approximately.

PERIOD OF RECORD.--July 1907 to March 1909 (published as "at Koss"), July 1913 to current year.

GAGE.--Headwater and tailwater gages and generation data entered hourly in daily log sheet by company employees. Prior to June 1913, chain gage on railroad bridge 4 miles upstream.

AVERAGE DISCHARGE.--59 years (1907-8, 1913-71), 3,119 cfs.

EXTREMES.--Current year: Maximum daily discharge, 17,000 cfs Apr. 20; minimum daily, 1,300 cfs Sept. 13.
Period of record: Maximum daily discharge, 33,000 cfs May 10, 1960; minimum daily, 162 cfs Sept. 15, 1931.

REMARKS.--Records fair. Daily discharge computed on basis of average daily load and load-discharge rating of combined hydroelectric units. Flow regulated by powerplants, and by Michigamme Reservoir (capacity, 119,950 acre-ft) and Peavy Pond (capacity, 33,860 acre-ft) on Michigamme River, and by many smaller reservoirs above station.

COOPERATION.--Records of daily discharge furnished by Wisconsin Public Service Corp. since 1913.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2,210	6,990	4,390	3,000	2,300	2,760	4,020	7,740	4,680	3,360	1,940	1,780
2	2,030	6,820	4,860	2,880	2,180	2,880	4,020	7,030	4,750	3,340	1,620	2,120
3	1,760	6,120	5,470	2,230	2,380	2,880	3,780	7,440	4,030	2,720	1,700	2,120
4	1,600	6,200	4,470	2,300	2,390	2,890	3,820	6,950	3,720	2,850	1,870	2,160
5	1,470	6,430	3,970	2,590	2,110	3,000	3,300	6,890	3,720	2,760	2,080	1,440
6	1,690	5,890	3,760	2,640	2,110	3,000	3,630	6,920	3,900	2,880	1,830	1,540
7	1,670	5,540	3,910	2,470	2,140	3,030	4,190	7,300	3,360	2,570	1,870	1,440
8	1,680	4,220	4,200	2,500	2,030	2,880	5,110	6,500	3,360	2,520	1,510	1,900
9	1,580	4,450	4,700	2,450	1,940	2,690	6,250	5,530	3,370	2,420	1,590	1,540
10	1,690	4,660	4,780	2,660	1,980	2,640	7,680	5,540	3,760	2,290	1,840	1,520
11	1,570	5,050	4,590	2,580	2,080	2,480	11,900	5,840	3,970	2,180	2,020	1,730
12	1,490	4,850	4,060	2,590	2,110	2,450	14,700	5,060	3,400	1,610	2,090	1,430
13	1,710	3,850	3,880	2,700	1,990	2,710	14,300	4,760	3,300	1,960	2,020	1,300
14	1,990	3,950	3,430	2,910	1,870	2,760	15,600	4,570	3,200	2,260	2,020	1,790
15	1,900	3,640	3,010	2,760	1,880	3,060	16,400	4,320	3,120	2,350	1,450	1,340
16	1,940	2,960	3,080	2,690	1,920	3,040	16,000	3,420	2,760	2,220	1,540	1,440
17	1,730	2,500	3,000	2,450	2,000	3,700	15,200	3,070	3,120	2,320	1,710	1,650
18	1,660	2,490	3,000	2,500	2,390	3,780	14,200	3,290	3,000	2,400	1,940	1,750
19	1,340	2,690	3,120	2,500	2,390	3,630	15,200	3,350	2,370	2,400	1,870	1,360
20	1,550	3,650	2,740	2,660	2,440	3,420	17,000	4,800	2,760	2,020	1,980	1,340
21	1,660	4,100	2,400	2,730	2,640	3,820	16,300	5,170	3,360	2,470	2,040	1,450
22	1,820	4,490	2,400	2,520	2,760	3,660	13,500	5,290	3,170	2,450	1,650	1,550
23	1,600	4,570	2,500	2,560	2,620	3,420	12,900	4,780	3,260	2,420	1,580	1,660
24	1,870	3,920	2,640	2,560	2,550	3,550	11,300	4,470	3,240	2,520	1,730	1,490
25	1,880	2,950	2,630	2,360	2,810	3,240	10,100	4,520	3,170	2,290	1,870	1,710
26	2,020	3,220	2,260	2,300	2,640	2,880	9,060	6,790	2,880	1,710	2,090	1,620
27	2,560	2,300	2,240	2,300	2,760	2,760	8,590	6,840	2,760	1,790	1,940	1,690
28	3,860	2,800	2,410	2,480	2,760	3,240	7,430	6,340	2,640	2,300	1,720	1,940
29	5,690	3,850	2,840	2,580	------	3,240	8,160	5,420	2,580	2,260	1,320	1,970
30	6,390	3,500	3,120	2,420	------	3,550	7,490	4,720	2,810	2,260	1,560	2,340
31	6,600	------	2,880	2,300	------	3,970	------	4,740	------	2,120	1,810	------
TOTAL	70,090	128,740	106,740	79,170	63,960	97,780	300,310	169,190	98,800	73,880	55,800	49,810
MEAN	2,261	4,291	3,443	2,554	2,284	3,154	10,010	5,458	3,293	2,383	1,800	1,660
MAX	6,600	6,990	5,470	3,000	2,810	3,970	17,000	7,740	4,750	3,360	2,090	2,340
MIN	1,340	2,300	2,240	2,230	1,870	2,450	3,300	3,070	2,370	1,610	1,320	1,300

CAL YR 1970 TOTAL 1,061,280 MEAN 2,908 MAX 20,000 MIN 1,200
WTR YR 1971 TOTAL 1,294,270 MEAN 3,546 MAX 17,000 MIN 1,300

04069500 Peshtigo River at Peshtigo, Wis.

LOCATION.--Lat 45°02'49", long 87°44'40", in NE 1/4 sec.30, T.30 N., R.23 E., Marinette County, on left bank 75 ft downstream from Chicago and Northwestern Railway bridge, 0.5 mile downstream from Wisconsin Public Service Corp. powerplant in Peshtigo, and 11.5 miles upstream from mouth.

DRAINAGE AREA.--1,124 sq mi.

PERIOD OF RECORD.--June 1953 to current year.

GAGE.--Water-stage recorder. Datum of gage is 584.64 ft above mean sea level.

AVERAGE DISCHARGE.--18 years, 879 cfs (10.62 inches per year).

EXTREMES.--Current year: Maximum discharge, 5,690 cfs Apr. 11 (gage height, 9.14 ft); minimum, 120 cfs Oct. 13 (gage height, 1.32 ft); minimum daily, 270 cfs Oct. 19.
Period of record: Maximum discharge, 9,790 cfs May 9, 1960 (gage height, 11.59 ft), from rating curve extended above 5,000 cfs on basis of computation of peak flow through dam gates; minimum, 17 cfs Nov. 29, 1966 (gage height, 1.00 ft); minimum daily, 84 cfs Aug. 5, 1957.

REMARKS.--Records good except those for winter months, which are fair. Diurnal fluctuation caused by powerplants upstream.

Rating tables (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Apr. 7-29, May 22 to June 27; July 3 to Sept. 28; stage-discharge relation affected by ice Dec. 21 to Mar. 13.)

1.7	229	4.5	1,560
2.3	435	6.5	3,300
3.2	850	8.5	5,400

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	632	2,640	1,190	500	600	800	1,930	1,780	1,060	653	1,050	546
2	605	2,510	1,240	540	660	660	2,230	1,760	1,020	679	822	388
3	626	2,620	1,320	640	580	620	1,820	1,450	920	677	807	464
4	510	2,920	1,040	720	470	640	1,490	1,390	805	609	596	456
5	523	2,620	1,260	600	660	720	1,610	1,500	825	467	535	462
6	543	2,470	810	760	580	700	1,760	1,450	850	362	540	505
7	568	2,170	810	700	540	800	2,510	1,210	670	471	434	336
8	619	1,580	970	680	520	1,000	3,260	1,130	980	516	447	433
9	657	1,720	1,240	600	600	940	4,660	1,000	1,110	516	497	444
10	694	1,580	1,170	660	700	920	5,210	825	971	545	489	368
11	641	1,550	1,150	600	480	960	5,430	819	861	496	629	427
12	457	1,360	1,000	620	600	920	5,240	896	1,150	382	441	421
13	396	1,370	836	700	660	940	5,100	985	1,090	601	408	345
14	392	1,020	730	680	450	980	4,710	957	882	509	605	452
15	409	955	755	680	320	1,020	4,120	810	901	489	618	504
16	356	623	690	600	430	1,280	3,840	784	894	450	507	497
17	433	990	780	540	500	1,590	3,780	680	721	505	456	396
18	319	970	750	500	580	1,370	4,160	759	696	411	460	330
19	270	890	890	600	450	1,360	4,000	2,010	1,370	769	510	438
20	447	1,070	596	680	420	1,400	4,350	3,370	1,530	1,510	562	357
21	492	1,190	520	540	410	1,450	3,740	3,280	1,190	1,100	803	465
22	431	1,270	690	580	520	1,300	4,110	2,800	1,100	909	758	462
23	533	1,070	580	470	540	1,220	3,850	2,280	908	916	621	510
24	579	920	540	420	470	1,130	2,530	1,730	822	670	800	598
25	703	890	620	640	520	1,060	2,160	2,210	702	553	611	648
26	521	860	740	580	560	990	1,820	2,640	716	423	572	562
27	834	790	580	540	620	1,000	1,830	2,620	671	517	702	412
28	1,170	725	540	540	900	1,070	1,920	2,420	588	520	549	656
29	2,090	1,000	620	580	------	1,120	1,980	2,030	554	612	534	939
30	2,440	1,070	660	420	------	1,170	1,890	1,750	518	533	386	1,030
31	2,460	------	600	500	------	1,240	------	1,200	------	1,140	496	------
TOTAL	22,350	43,403	25,981	18,410	15,350	32,420	97,040	50,525	27,075	19,510	18,245	14,851
MEAN	721	1,447	838	594	548	1,046	3,235	1,630	903	629	589	495
MAX	2,460	2,920	1,320	760	900	1,590	5,430	3,370	1,530	1,510	1,050	1,030
MIN	270	623	520	420	320	620	1,490	680	518	362	386	330
CFSM	.64	1.29	.75	.53	.49	.93	2.88	1.45	.80	.56	.52	.44
IN.	.74	1.44	.86	.61	.51	1.07	3.21	1.67	.90	.65	.60	.49

CAL YR 1970 TOTAL 324,699 MEAN 890 MAX 6,330 MIN 235 CFSM .79 IN 10.75
WTR YR 1971 TOTAL 385,160 MEAN 1,055 MAX 5,430 MIN 270 CFSM .94 IN 12.75

04070000 Wheeler Lake near Lakewood, Wis.

LOCATION.--Lat 45°19'07", long 88°28'58", in NW 1/4 sec.27, T.33 N., R.16 E., Oconto County, near the home of Carl Zuelzke on west shore of land 2.3 miles northeast of Lakewood.

DRAINAGE AREA.--2 sq mi, approximately. Area of Wheeler Lake, 380 acres.

PERIOD OF RECORD.--August 1936 to current year (fragmentary).

GAGE.--Nonrecording gage (chiseled square on boulder in lakebed). Datum of gage is 90.00 ft above datum assumed by Wisconsin Department of Natural Resources; gage readings have been reduced to elevations above this datum. Prior to Apr. 19, 1936, nonrecording gage was located on east shore of lake. Apr. 20, 1939, to Apr. 13, 1960, nonrecording gage was located on southwest shore of lake.

EXTREMES.--Current year: Maximum elevation observed, 6.46 ft Mar. 24; minimum observed, 5.41 ft Oct. 20.
Period of record: Maximum elevation observed, 6.51 ft July 1, 1969; minimum observed, 3.45 ft Feb. 5, 1950.

REMARKS.--Add 90 ft to obtain elevation above datum assumed for this lake by Wisconsin Department of Natural Resources. Lake has no surface outlet. Lake was ice covered about Nov. 27 to Apr. 7.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1												5.95
2									6.15	6.14		
3		5.72										
4											6.01	
5								6.23				
6	5.48											
7												
8									6.20	6.11		5.91
9									6.20			
10		5.72										
11											5.55	
12	5.48							6.16				
13												
14												
15										6.00		5.83
16									6.25			
17		5.68										
18											5.59	
19								6.17				
20	5.41											
21										6.12		
22				6.09		6.46	6.26					
23									6.28			
24												
25											6.01	
26							6.26	6.24				
27												
28	5.66									6.04		
29					------							
30					------				6.20			
31		------			------		------		------			------

04071000 Oconto River near Gillett, Wis.

LOCATION.--Lat 44°51'53", long 88°18'00", in NW 1/4 sec.34, T.28 N., R.18 E., Oconto County, on left bank just upstream from County Trunk BB bridge, 2.0 miles upstream from Christy Brook, 2.0 miles south of Gillett, and at mile 29.

DRAINAGE AREA.--678 sq mi.

PERIOD OF RECORD.--June 1906 to March 1909, October 1913 to current year. Monthly discharge only for some periods, published in WSP 1307.

GAGE.--Water-stage recorder. Datum of gage is 732.87 ft above mean sea level (levels by Wisconsin Department of Transportation). See WSP 1727 for history of changes prior to Aug. 25, 1938.

AVERAGE DISCHARGE.--60 years (1906-8, 1913-71), 574 cfs (11.50 inches per year).

EXTREMES.--Current year: Maximum discharge, 3,900 cfs Apr. 9; minimum, 278 cfs Sept. 18, 19 (gage height, 0.86 ft).

Period of record: Maximum discharge, 8,400 cfs Apr. 10, 1922 (gage height, 11.2 ft from floodmarks), caused by failure of dam at Pulcifer 4 miles above station; minimum, 93 cfs Nov. 26, 1941 (gage height, 0.13 ft), flow retarded by anchor ice above station.

REMARKS.--Records good except those for winter months, which are fair.

REVISIONS (WATER YEARS).--WSP 384: Drainage area. WSP 1207: 1922. WSP 1307: 1907-8(M), 1914-16(M), 1918-21(M), 1923-33(M), 1937-38(M), 1943(M).

Rating table (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 24 to Apr. 10.)

0.5	165	3.0	1,410
1.0	330	4.0	2,070
1.5	559	5.0	2,770
2.0	820	6.0	3,520

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	400	1.010	780	520	330	420	760	996	882	400	704	323
2	382	1.030	680	500	330	420	900	977	782	397	648	320
3	365	1.080	720	500	330	420	1.100	936	711	401	547	316
4	350	1.060	660	490	330	420	1.000	884	666	391	481	309
5	340	1.070	760	470	340	420	960	837	634	414	442	317
6	337	1.070	1.200	460	350	420	1.100	782	596	403	405	368
7	333	1.030	1.100	450	370	420	1.200	744	576	381	371	394
8	334	963	1.100	440	380	420	1.900	711	648	398	353	369
9	331	898	1.000	430	400	420	3.000	678	751	405	342	344
10	330	846	920	420	420	430	2.600	630	795	376	340	334
11	334	806	860	410	420	440	2.430	582	778	351	348	327
12	338	804	800	400	430	450	2.580	572	717	341	355	323
13	341	801	760	390	430	480	2.640	582	728	395	360	316
14	341	769	720	380	420	500	2.580	578	755	425	476	309
15	334	715	700	380	420	520	2.480	552	713	391	495	300
16	332	660	700	370	420	520	2.360	523	664	351	526	291
17	334	629	740	370	420	540	2.260	502	637	324	466	285
18	326	608	740	360	410	540	2.120	565	603	331	415	279
19	319	579	720	360	410	540	1.980	1.140	626	417	390	286
20	317	611	700	350	410	540	1.840	1.190	780	605	381	324
21	322	680	700	350	410	520	1.690	1.330	834	701	371	356
22	327	747	680	350	410	520	1.540	1.360	784	682	363	365
23	340	911	660	350	410	500	1.420	1.270	708	614	375	369
24	382	1.000	640	350	410	500	1.310	1.180	682	536	383	378
25	439	1.300	640	350	410	500	1.220	1.190	643	465	418	381
26	478	1.200	620	340	410	500	1.120	1.210	588	408	410	374
27	490	1.100	620	340	410	520	1.040	1.300	542	353	398	387
28	609	1.100	600	340	420	540	1.010	1.320	509	384	379	397
29	777	1.000	580	330	------	560	971	1.260	477	379	357	419
30	878	900	560	330	------	600	984	1.140	428	467	339	555
31	952	------	540	330	------	660	------	1.010	------	622	326	------
TOTAL	12.812	26.977	23.200	12.210	11.060	15.200	50.095	28.531	20.237	13.508	12.964	10.415
MEAN	413	899	748	394	395	490	1.670	920	675	436	418	347
MAX	952	1.300	1.200	520	430	660	3.000	1.360	882	701	704	555
MIN	317	579	540	330	330	420	760	502	428	324	326	279
CFSM	.61	1.33	1.10	.58	.58	.72	2.46	1.36	1.00	.64	.62	.51
IN.	.70	1.48	1.27	.67	.61	.83	2.75	1.57	1.11	.74	.71	.57

CAL YR 1970 TOTAL 204.957 MEAN 562 MAX 2.130 MIN 223 CFSM .83 IN 11.25
WTR YR 1971 TOTAL 237.209 MEAN 650 MAX 3.000 MIN 279 CFSM .96 IN 13.02

PEAK DISCHARGE (BASE, 1,500 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
4- 9	--	--	3,900	4-13	0700	4.83	2,650

04072750 Lawrence Creek near Westfield, Wis.

LOCATION.--Lat 43°53'52", long 89°34'43", in SW 1/4 sec.32, T.17 N., R.8 E., Marquette County, on left bank 0.8 mile upstream from Lawrence Lake and 4.0 miles northwest of Westfield, Wis.

DRAINAGE AREA.--16 sq mi, approximately (includes approximately 10 sq mi without surface drainage).

PERIOD OF RECORD.--November 1967 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 900 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 53 cfs Sept. 30 (gage height, 8.95 ft); minimum daily, 14 cfs May 13.

Period of record: Maximum discharge, 53 cfs Sept. 30, 1971 (gage height, 8.95 ft); minimum daily, 12 cfs Jan. 23-26, 28, 31, Feb. 5, 1968.

REMARKS.--Records are fair. Flow includes large ground-water inflow.

Rating tables (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Jan. 3-5, Jan. 26 to Feb. 9.)

Oct. 1 to May 19				May 19 to Sept. 30			
7.7	13	8.0	20	7.7	13	8.0	22
7.8	15	8.1	23	7.8	16	8.1	26
7.9	17	8.2	26	7.9	19		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	19	18	17	15	16	17	16	17	16	17	18
2	17	19	18	17	15	16	17	16	17	16	17	18
3	18	24	18	17	15	16	17	16	17	16	17	17
4	17	20	18	17	15	16	16	17	17	16	16	17
5	17	19	17	18	16	16	17	16	17	16	16	18
6	17	19	16	17	16	16	17	15	17	16	16	17
7	17	19	17	17	16	16	17	15	20	16	17	17
8	18	18	17	17	16	16	18	15	17	17	16	17
9	18	18	17	16	16	16	20	15	17	16	16	19
10	18	18	18	16	16	16	18	15	17	16	19	20
11	17	18	18	16	16	16	17	15	17	16	18	18
12	18	18	18	16	16	15	18	15	17	17	17	17
13	18	18	18	16	16	16	17	14	18	17	17	17
14	18	18	18	16	16	16	17	15	16	16	23	17
15	18	17	18	16	16	17	17	15	16	16	18	17
16	17	17	18	16	16	17	18	15	16	16	18	17
17	17	17	18	16	16	16	17	15	16	16	18	17
18	17	16	18	16	16	16	17	20	16	16	18	17
19	17	17	18	16	16	17	17	26	17	18	18	20
20	17	18	17	16	19	16	16	18	19	17	18	19
21	17	17	17	16	18	16	16	18	17	16	18	18
22	17	17	17	15	17	16	16	18	17	16	18	18
23	17	16	19	15	17	16	16	18	17	22	18	18
24	20	16	20	15	16	16	16	21	17	17	18	18
25	18	16	16	15	16	16	16	18	17	16	18	18
26	18	17	16	15	16	16	16	18	17	15	18	19
27	20	17	16	15	17	16	16	18	16	16	18	19
28	23	17	16	15	16	16	16	17	16	17	18	18
29	20	17	17	15	------	16	16	17	16	17	20	18
30	21	17	17	15	------	16	16	17	17	17	20	25
31	20	------	17	15	------	17	------	17	------	17	20	------
TOTAL	559	534	541	495	452	499	505	521	508	512	554	543
MEAN	18.0	17.8	17.5	16.0	16.1	16.1	16.8	16.8	16.9	16.5	17.9	18.1
MAX	23	24	20	18	19	17	20	26	20	22	23	25
MIN	17	16	16	15	15	15	16	14	16	15	16	17

CAL YR 1970 TOTAL 5,962 MEAN 16.3 MAX 28 MIN 14
WTR YR 1971 TOTAL 6,223 MEAN 17.0 MAX 26 MIN 14

NOTE.--No gage-height record Oct. 1 to Nov. 18, Feb. 18 to Mar. 25, Apr. 8 to May 12.

04073050 Grand River near Kingston, Wis.

LOCATION.--Lat 43°41'09", long 89°05'09", between secs.16 and 17, T.14 N., R.12 E., Green Lake County, on left bank just upstream of town road bridge, 1.3 miles upstream and east of Grand Lake and 2.3 miles east of Kingston.

DRAINAGE AREA.--73.7 sq mi.

PERIOD OF RECORD.--April 1968 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 795 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 404 cfs Mar. 19 (gage height, 5.78 ft); minimum, 2.0 cfs Nov. 28, (gage height, 1.14 ft), result of freezeup.
Period of record: Maximum discharge, 406 cfs June 27, 1969 (gage height, 5.80 ft); minimum, 2.0 cfs Nov. 28, 1970 (gage height, 1.14 ft), result of freezeup.

REMARKS.--Records good except those for winter period, which are fair. Occasional regulation by mill about 2 miles upstream.

Rating table (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 23, 24, 28-31, Jan. 4 to Feb. 27, Mar. 8-10, 23-25.)

1.2	4.0	3.0	115
1.4	11	4.0	204
1.7	28	5.0	310
2.0	46	6.0	430
2.5	78		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	14	15	7.4	8.4	65	162	70	21	22	13	9.7
2	15	19	20	5.1	9.2	66	150	65	20	22	15	9.9
3	12	21	19	10	10	67	151	62	20	19	16	10
4	8.8	25	21	9.4	11	63	164	58	20	18	15	11
5	14	27	17	11	10	51	150	59	16	18	14	11
6	11	23	14	9.6	10	45	128	56	15	19	14	9.9
7	13	17	17	10	9.0	43	123	54	20	17	13	9.7
8	13	15	14	11	8.0	42	117	51	19	31	11	9.9
9	14	19	14	11	8.6	40	114	48	17	30	11	9.7
10	11	20	13	11	9.6	39	110	47	17	25	11	9.5
11	8.3	20	18	11	10	37	106	45	17	21	12	9.8
12	11	18	15	11	9.4	39	126	44	14	21	11	9.4
13	12	17	8.7	12	8.6	40	150	45	55	19	13	8.9
14	11	15	15	12	8.2	92	131	42	42	18	19	9.6
15	11	11	13	11	8.0	362	130	39	27	18	18	8.5
16	13	16	13	10	8.8	228	130	36	21	17	16	9.0
17	9.8	12	14	9.4	10	228	128	36	18	17	14	8.8
18	7.4	11	14	9.0	11	275	116	36	17	16	13	9.3
19	11	14	12	9.6	13	318	109	35	17	17	12	11
20	12	16	13	10	16	189	102	35	31	17	11	13
21	13	17	18	11	21	143	95	33	30	17	11	12
22	11	18	16	11	25	129	85	30	23	17	11	12
23	11	25	16	10	24	120	78	27	23	16	12	12
24	10	16	16	9.2	25	110	71	34	25	16	14	12
25	7.1	15	8.5	9.0	26	110	67	36	27	16	17	12
26	12	7.9	6.4	9.4	28	101	64	35	27	16	16	13
27	10	15	14	8.4	38	96	65	32	27	15	13	14
28	14	12	14	9.2	60	100	73	28	27	16	12	14
29	15	10	13	9.2	------	112	74	25	25	14	11	14
30	19	16	14	9.4	------	119	72	22	24	14	10	13
31	17	------	12	7.6	------	135	------	20	------	13	10	------
TOTAL	372.4	501.9	447.6	301.9	443.8	3,604	3,341	1,285	702	572	409	325.6
MEAN	12.0	16.7	14.4	9.74	15.9	116	111	41.5	23.4	18.5	13.2	10.9
MAX	19	27	21	12	60	362	164	70	55	31	19	14
MIN	7.1	7.9	6.4	5.1	8.0	37	64	20	14	13	10	8.5
CFSM	.16	.23	.20	.13	.22	1.57	1.51	.56	.32	.25	.18	.15
IN.	.19	.25	.23	.15	.22	1.82	1.69	.65	.35	.29	.21	.16

CAL YR 1970 TOTAL 7,262.0 MEAN 19.9 MAX 250 MIN 3.3 CFSM .27 IN 3.67
WTR YR 1971 TOTAL 12,306.2 MEAN 33.7 MAX 362 MIN 5.1 CFSM .46 IN 6.21

PEAK DISCHARGE (BASE, 150 CFS, REVISED).--Mar. 19 (1000) 404 cfs (5.78 ft); Apr. 1 (1200) 171 cfs (3.66 ft); Apr. 12 (1900) 159 cfs (3.52 ft).

04073500 Fox River at Berlin, Wis.

LOCATION.--Lat 43°57'14", long 88°57'08", in NE 1/4 sec.16, T.17 N., R.13 E, Green Lake County, on left bank, 0.4 mile downstream from government dam, 1.0 mile south of Huron Street bridge in Berlin, 2.5 miles upstream from Barnes Creek, and at mile 89.0.

DRAINAGE AREA.--1,430 sq mi, approximately.

PERIOD OF RECORD.--January 1898 to current year.

GAGE.--Water-stage recorder. Datum of gage is 744.52 ft above mean tide at New York City (by Corps of Engineers). Prior to Oct. 27, 1954, nonrecording gage at site 0.3 mile upstream at same datum.

AVERAGE DISCHARGE.--73 years, 1,075 cfs (10.21 inches per year).

EXTREMES.--Current year: Maximum daily discharge, about 4,200 cfs Mar. 24; minimum, 364 cfs Sept. 18, 19 (gage height, 7.46 ft).

Period of record: Maximum discharge, 6,900 cfs Mar. 17, 18, 1946 (gage height, 15.5 ft); minimum, 248 cfs Sept. 16, 1948 (gage height, 6.1 ft).

REMARKS.--Records good except those for no gage-height record and those for winter months, which are fair. Usually less than about 5 cfs was diverted into the basin from the Wisconsin River at Portage Canal throughout the year.

REVISIONS.--WSP 1337: 1910.

Rating table (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 15, 20, Dec. 23 to Feb. 25.)

7.4	355	9.0	1,020
7.5	385	11.0	2,160
8.0	560	14.0	4,860

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	932	630	1,050	840	400	1,680	3,400	1,970	1,160	649	475	455
2	928	631	1,090	860	420	1,740	3,500	1,910	1,090	622	489	466
3	884	677	1,110	840	440	1,810	3,400	1,850	1,040	613	471	467
4	835	742	1,120	840	460	1,880	3,400	1,780	1,050	599	467	463
5	818	776	1,110	780	440	1,950	3,200	1,730	1,020	592	452	467
6	797	837	1,010	720	420	2,020	3,200	1,660	983	577	447	446
7	806	899	1,000	660	410	2,090	3,200	1,580	984	576	452	435
8	779	914	1,060	580	400	2,150	3,000	1,460	994	589	449	447
9	801	950	1,100	560	400	2,190	2,900	1,320	974	577	437	419
10	838	1,070	1,100	540	420	2,230	2,900	1,200	881	583	455	412
11	791	1,150	1,080	540	420	2,270	2,800	1,140	812	553	464	422
12	727	1,230	1,040	540	410	2,310	2,700	1,060	793	519	447	394
13	693	1,270	1,100	540	410	2,340	2,800	1,000	853	571	476	400
14	670	1,250	1,110	520	410	2,700	2,800	966	886	548	469	406
15	648	1,200	1,000	490	440	2,900	2,830	961	872	545	481	388
16	645	1,190	1,070	470	500	3,000	2,800	925	833	526	498	388
17	655	1,170	1,070	460	560	3,500	2,770	856	803	517	520	388
18	659	1,140	1,090	450	640	3,800	2,720	867	775	501	524	376
19	628	1,110	1,050	440	740	4,000	2,660	898	731	546	516	385
20	612	1,110	1,000	440	800	4,000	2,590	967	754	535	501	391
21	555	1,090	1,030	450	860	4,000	2,510	963	753	569	454	415
22	492	1,100	1,020	480	940	4,000	2,440	945	765	568	484	454
23	456	1,070	1,000	500	1,100	4,000	2,360	985	784	582	470	447
24	468	1,000	940	540	1,200	4,200	2,280	1,080	776	570	464	447
25	471	1,020	900	540	1,400	3,900	2,210	1,160	778	558	488	475
26	464	1,060	900	520	1,500	3,800	2,150	1,190	746	559	486	478
27	449	1,080	840	460	1,570	3,800	2,100	1,200	736	519	488	482
28	504	1,060	820	450	1,630	3,800	2,080	1,260	739	517	500	513
29	548	1,060	800	420	------	3,600	2,050	1,280	709	497	492	556
30	551	1,060	800	390	------	3,400	2,000	1,270	692	499	493	544
31	615	------	820	380	------	2,760	------	1,240	------	480	451	------
TOTAL	20,783	30,537	31,340	17,220	19,760	91,720	81,550	38,655	25,796	17,256	14,802	13,226
MEAN	670	1,018	1,011	555	706	2,959	2,718	1,248	860	557	477	441
MAX	932	1,270	1,120	860	1,630	4,200	3,500	1,970	1,160	649	524	556
MIN	449	630	800	380	400	1,680	2,000	856	692	480	437	376
CFSM	.47	.71	.71	.39	.49	2.07	1.90	.87	.60	.39	.33	.31
IN.	.54	.79	.82	.45	.51	2.39	2.12	1.01	.67	.45	.39	.34

CAL YR 1970 TOTAL 281,006 MEAN 770 MAX 1,640 MIN 335 CFSM .54 IN 7.31
WTR YR 1971 TOTAL 402,685 MEAN 1,103 MAX 4,200 MIN 376 CFSM .77 IN 10.48

NOTE.--No gage-height record Mar. 14 to Apr. 14.

04074950 Wolf River at Langlade, Wis.

LOCATION.--Lat 45°11'24", long 88°44'00", between secs.3 and 10, T.31 N., R.14 E., Langlade County, near left bank on upstream side of bridge handrail, on State Highway 64 at Langlade, 1.5 miles east of White Lake, 3.0 miles upstream from White Lake Creek, and at about mile 170 above mouth.

DRAINAGE AREA.--460 sq mi.

PERIOD OF RECORD.--March 1966 to current year.

GAGE.--Nonrecording gage. Altitude of gage is about 1,240 ft (from topographic map).

AVERAGE DISCHARGE.--5 years, 457 cfs (13.49 inches per year).

EXTREMES.--Current year: Maximum discharge observed, 1,700 cfs Apr. 24 (gage height, 9.19 ft); maximum gage height observed, 9.84 ft Mar. 4 (backwater from ice); minimum discharge observed, 180 cfs Aug. 10 (gage height, 7.35 ft).

Period of record: Maximum discharge observed, 1,730 cfs Apr. 17, 1967 (gage height, 9.20 ft); maximum gage height observed, 9.98 ft Dec. 5, 1968 (backwater from ice); minimum discharge observed, 156 cfs Aug. 27, 29, 1970.

REMARKS.--Records good except those for winter months, which are fair.

Rating table (gage height, in feet, and discharge, in cubic feet per second). (Shifting-control method used Oct. 1-27, June 27 to Sept. 30; stage-discharge relation affected by ice Nov. 24 to Apr. 10.)

7.2	142	8.5	930
7.5	260	9.0	1,440
8.0	540	9.5	2,230

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	270	957	640	380	340	360	540	895	489	366	242	216
2	265	939	720	380	340	360	560	863	458	339	242	208
3	247	1,030	720	380	340	370	580	842	428	251	234	200
4	247	1,040	640	400	340	370	600	825	416	251	220	204
5	251	984	540	410	340	380	620	783	410	247	212	242
6	251	904	500	410	340	370	620	742	366	260	200	260
7	251	800	520	400	340	370	640	560	350	251	200	234
8	247	704	540	400	340	370	680	495	521	265	200	220
9	260	560	560	390	340	360	740	495	482	279	200	220
10	250	615	540	390	340	360	900	476	422	270	180	247
11	239	630	520	380	340	350	1,070	458	527	251	204	284
12	334	615	490	380	340	350	1,140	446	540	242	204	279
13	329	588	460	380	340	350	1,500	422	502	279	204	265
14	294	567	420	370	340	350	1,620	416	464	270	289	256
15	251	534	400	370	350	360	1,640	405	452	256	256	242
16	242	521	400	370	350	370	1,620	405	382	242	242	234
17	239	514	400	360	360	380	1,640	390	355	251	220	225
18	239	495	410	360	360	400	1,600	380	329	251	208	220
19	234	574	430	360	360	420	1,540	366	394	482	200	216
20	234	703	440	350	360	440	1,480	527	388	422	284	270
21	238	442	450	350	360	450	1,620	495	434	339	256	260
22	242	422	450	350	360	460	1,700	567	464	313	247	256
23	265	398	430	350	360	460	1,600	601	434	313	242	279
24	329	420	420	350	350	450	1,700	644	377	289	220	256
25	440	520	410	350	350	450	1,190	656	399	242	220	265
26	422	600	400	350	350	440	1,060	666	377	247	234	265
27	503	740	390	350	350	440	1,200	666	371	242	238	265
28	800	680	390	350	350	440	984	608	388	265	216	355
29	934	640	380	340	------	450	957	581	339	242	200	377
30	993	580	380	340	------	460	912	534	377	289	200	360
31	593	------	380	340	------	500	------	508	------	265	216	------
TOTAL	11,786	20,496	14,770	11,440	9,730	12,440	34,253	17,732	12,635	8,771	6,930	7,680
MEAN	380	683	476	369	348	401	1,142	572	421	283	224	256
MAX	993	1,040	720	410	360	500	1,700	895	540	482	289	377
MIN	234	398	380	340	340	350	540	366	329	242	180	200
CFSM	.83	1.48	1.03	.80	.76	.87	2.48	1.24	.92	.62	.49	.56
IN.	.95	1.56	1.19	.93	.79	1.01	2.77	1.43	1.02	.71	.56	.62

CAL YR 1970 TOTAL 139,345 MEAN 382 MAX 1,040 MIN 156 CFSM .83 IN 11.27
WTR YR 1971 TOTAL 168,663 MEAN 462 MAX 1,700 MIN 180 CFSM 1.00 IN 13.64

04075200 Evergreen Creek near Langlade, Wis.

LOCATION.--Lat 45°10'11", long 88°48'12", in NW 1/4 sec.18, T.31 N., R.14 E., Langlade County, on right bank 30 ft upstream from culvert on State Highway 64, 0.1 mile downstream from Town Line Lake outlet, 2.5 miles upstream from mouth, 3.8 miles southwest of Langlade.

DRAINAGE AREA.--4.9 sq mi, approximately.

PERIOD OF RECORD.--Annual maximum and occasional low-flow measurements, water years 1959-64, no winter record, June 1964-67, October 1967 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,320 ft (from topographic map). Prior to June 16, 1964, nonrecording gage at same site and datum.

EXTREMES.--Current year: Maximum discharge, 39 cfs Oct. 28 (gage height, 10.70 ft); minimum, 6.1 cfs Mar. 14 (gage height, 9.45 ft).
Period of record: Maximum discharge, 78 cfs Apr. 11, 1965 (gage height, 11.62 ft); minimum recorded, 6.1 cfs Mar. 14, 1971 (gage height, 9.45 ft).

REMARKS.--Records good except those for winter months, which are fair.

Rating tables (gage height, in feet, and discharge, in cubic feet per second). (Shifting-control method used Apr. 11, May 18, 19, Sept. 4; stage-discharge relation affected by ice Nov. 23, 24, Dec. 1-6, 11-31, Jan. 3 to Feb. 25, Mar. 1-13, 18-22, Mar. 27 to Apr. 3.)

9.5	6.5	10.3	26
9.9	14	10.8	43

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.7	10	9.4	8.5	8.4	8.8	10	12	11	11	11	10
2	8.7	10	9.8	8.5	8.4	9.0	10	12	11	10	11	10
3	8.5	16	9.6	8.6	8.2	9.0	10	11	11	10	11	10
4	8.5	12	10	8.8	8.2	9.0	9.2	11	10	10	10	16
5	8.5	10	9.2	8.9	8.2	9.4	8.1	11	10	11	10	17
6	8.7	9.6	9.6	9.0	8.4	10	7.9	11	10	10	10	12
7	8.7	9.2	9.2	9.0	8.4	10	8.5	11	14	10	10	11
8	9.0	9.0	8.5	9.0	8.4	10	10	11	16	11	10	10
9	9.4	10	7.9	9.0	8.4	10	14	11	12	10	10	10
10	9.4	11	7.9	9.0	8.2	10	14	10	11	10	13	11
11	9.2	9.4	8.8	8.8	8.0	9.2	17	11	17	10	11	11
12	9.6	9.2	9.4	8.8	8.0	8.2	22	12	14	11	11	10
13	9.4	8.7	9.4	8.6	8.2	7.6	21	11	13	13	12	10
14	9.2	8.5	9.4	8.6	8.4	7.2	18	11	12	11	17	10
15	9.2	8.3	9.4	8.6	8.4	8.2	18	11	12	10	12	10
16	9.0	8.3	9.2	8.6	8.6	7.6	19	10	11	11	11	9.8
17	9.2	8.3	9.2	8.6	8.6	9.6	20	11	11	11	11	9.8
18	9.0	8.4	9.4	8.6	8.6	9.8	18	15	14	14	10	9.8
19	9.0	8.5	9.4	8.4	8.6	9.6	16	21	15	20	11	11
20	9.0	13	9.4	8.4	8.6	9.4	16	14	13	12	11	12
21	9.2	11	9.4	8.4	8.4	9.4	15	12	12	11	11	10
22	9.2	9.8	9.4	8.4	8.4	9.0	14	11	11	10	11	10
23	10	9.2	9.2	8.2	8.2	9.0	13	12	11	10	12	12
24	15	10	9.2	8.2	8.0	9.0	12	19	11	10	11	11
25	12	10	9.4	8.0	8.0	10	12	20	11	10	11	10
26	10	8.7	9.4	8.0	7.9	8.3	12	14	11	10	11	10
27	18	8.5	9.4	8.2	8.5	8.6	12	12	10	10	11	11
28	36	8.3	9.2	8.2	8.5	8.8	14	11	10	11	10	22
29	18	8.4	9.2	8.4	------	9.2	14	11	12	11	10	21
30	13	8.3	9.0	8.4	------	9.6	12	11	12	14	10	18
31	12	------	8.8	8.4	------	10	------	11	------	12	10	------
TOTAL	342.3	289.6	285.7	265.2	233.1	282.5	416.7	382	359	345	341	355.4
MEAN	11.0	9.65	9.22	8.55	8.33	9.11	13.9	12.3	12.0	11.1	11.0	11.8
MAX	36	16	10	9.0	8.6	10	22	21	17	20	17	22
MIN	8.5	8.3	7.9	8.0	7.9	7.2	7.9	10	10	10	10	9.8
CFSM	1.38	1.21	1.15	1.07	1.04	1.14	1.74	1.54	1.50	1.39	1.38	1.48
IN.	1.59	1.35	1.33	1.23	1.08	1.31	1.94	1.78	1.67	1.60	1.59	1.65

CAL YR 1970 TOTAL 3,689.4 MEAN 10.1 MAX 40 MIN 7.9 CFSM 1.26 IN 17.16
WTR YR 1971 TOTAL 3,897.5 MEAN 10.7 MAX 36 MIN 7.2 CFSM 1.34 IN 18.12

04077000 Wolf River at Keshena Falls, Wis.

LOCATION.--Lat 44°53'28", long 88°39'18", in E 1/2 sec.22, T.28 N., R.15 E., Menominee County, on right bank 500 ft downstream from Keshena Falls. 1.7 miles upstream from Keshena, 3.1 miles downstream from West Branch Wolf River, and 136.4 miles upstream from Oshkosh.

DRAINAGE AREA.--812 sq mi.

PERIOD OF RECORD.--May 1907 to March 1909, October 1910 to current year. Monthly discharge only for some periods, published in WSP 1307. Published as "at Keshena" prior to April 1928.

GAGE.--Water-stage recorder. Datum of gage is 820.0 ft above mean sea level (levels by Wisconsin Power and Light Co.). Prior to Mar. 23, 1928, nonrecording gage at bridge in Keshena 1.7 miles downstream at datum 4.03 ft lower.

AVERAGE DISCHARGE.--62 years (1907-8, 1910-71), 755 cfs (12.63 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,580 cfs Apr. 18 (gage height, 7.80 ft); minimum, 372 cfs Sept. 4 (gage height, 5.29 ft).

Period of record: Maximum discharge, 4,830 cfs May 7, 1960 (gage height, 9.67 ft) from rating curve extended above 3,300 cfs; instantaneous peak caused when earth fill wall near powerplant was dynamited to relieve pressure on dam; maximum discharge after flow stabilized, 4,330 cfs May 8 (gage height, 9.36 ft) from rating curve extended above 3,300 cfs; maximum gage height, 13.83 ft Nov. 17, 1943 (backwater from ice); minimum, 91 cfs Dec. 22, 1939 (gage height, 4.67 ft), result of ice storage.

REMARKS.--Records good except those for winter months, which are fair.

REVISIONS (WATER YEARS).--WSP 664: Drainage area (site at Keshena). WSP 1337: 1914-15(M), 1918-19(M), 1921, 1923(M), 1926(M), 1928(M), 1933.

Rating table (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 2-18, Dec. 21 to Apr. 7.)

5.0	229	7.0	1,740
5.5	488	8.0	2,800
6.0	842		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	493	1,500	906	640	520	600	820	1,400	870	568	606	415
2	478	1,460	960	640	520	600	860	1,350	831	536	542	420
3	463	1,640	1,000	620	520	600	940	1,300	752	521	505	414
4	449	1,700	900	620	520	600	1,000	1,260	722	519	441	454
5	446	1,580	820	640	540	600	1,000	1,220	747	538	417	799
6	444	1,440	740	660	540	580	1,100	1,160	731	523	415	476
7	453	1,330	840	660	540	580	1,100	1,020	736	510	406	548
8	454	1,180	920	660	540	580	1,190	914	910	570	400	489
9	461	1,040	980	660	540	580	1,380	861	990	572	402	463
10	474	1,060	1,000	640	560	580	1,670	817	673	519	411	462
11	539	1,080	980	640	560	580	1,990	795	838	489	457	493
12	557	1,050	960	640	560	580	2,260	827	959	684	443	505
13	549	998	900	620	560	580	2,410	802	960	621	450	499
14	543	966	840	620	560	580	2,440	765	874	577	664	483
15	478	899	820	600	560	580	2,380	738	902	529	724	464
16	452	857	920	580	560	600	2,290	715	854	494	615	448
17	439	827	860	580	560	640	2,380	690	750	684	537	439
18	434	803	760	560	560	660	2,530	736	700	497	491	432
19	431	792	740	560	560	700	2,470	1,160	761	703	462	441
20	436	902	690	540	560	700	2,300	1,300	767	799	488	518
21	444	1,040	700	540	560	700	2,140	1,200	743	686	486	521
22	445	1,060	740	540	560	720	2,000	1,020	730	603	493	503
23	462	691	740	540	560	720	1,850	910	713	575	529	524
24	537	513	720	540	560	720	1,690	994	709	542	495	543
25	752	772	720	540	540	700	1,600	1,370	686	498	506	535
26	811	864	700	540	560	700	1,520	1,450	667	469	492	516
27	788	897	700	520	560	680	1,460	1,320	642	457	471	515
28	1,250	869	660	520	580	660	1,490	1,200	606	491	453	585
29	1,850	842	660	520	------	720	1,510	1,090	574	491	434	791
30	1,800	831	660	520	------	780	1,470	1,000	576	613	420	953
31	1,580	------	640	520	------	800	------	922	------	705	414	------
TOTAL	20,192	31,481	25,196	18,220	15,420	20,000	51,240	32,308	23,177	17,179	15,094	15,862
MEAN	651	1,049	813	588	551	645	1,708	1,042	773	554	487	528
MAX	1,850	1,700	1,000	660	580	800	2,530	1,450	990	799	724	953
MIN	431	513	640	520	520	580	820	690	574	457	400	414
CFSM	.80	1.29	1.00	.72	.68	.79	2.10	1.28	.95	.68	.60	.65
IN.	.93	1.44	1.15	.83	.71	.92	2.35	1.48	1.06	.79	.69	.73

CAL YR 1970 TOTAL 255,694 MEAN 701 MAX 2,140 MIN 324 CFSM .86 IN 11.71
WTR YR 1971 TOTAL 285,349 MEAN 782 MAX 2,530 MIN 400 CFSM .96 IN 13.07

PEAK DISCHARGE (BASE, 1,500 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
10-29	1800	7.20	1,940	5-26	0200	6.72	1,490
4-18	1400	7.80	2,580				

04078500 Embarrass River near Embarrass, Wis.

LOCATION.--Lat 44°43'29", long 88°44'10", in SW 1/4 sec.18, T.26 N., R.15 E., Shawano County, on left bank 10 ft downstream from bridge on county road, 1.3 miles downstream from Mill Creek, and 4.0 miles northwest of Embarrass.

DRAINAGE AREA.--395 sq mi.

PERIOD OF RECORD.--June 1919 to current year.

GAGE.--Water-stage recorder. Datum of gage is 803.95 ft above mean sea level. Prior to Aug. 23, 1938, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--52 years, 286 cfs (9.83 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,940 cfs Apr. 12 (gage height, 7.83 ft); minimum, 116 cfs Sept. 18 (gage height, 2.85 ft).

Period of record: Maximum discharge, 7,080 cfs Apr. 12, 1965 (gage height, 12.13 ft), affected by failure of dam near Pella, 9.2 miles above station; minimum observed, 23 cfs Aug. 3, 6, 7, 1931.

REMARKS.--Records good except those for winter months, which are fair. Slight diurnal fluctuation caused by powerplants above station.

REVISIONS (WATER YEARS).--WSP 1337: 1920-26(M), 1928, 1929-30(M), 1933-34, 1936-37, 1938(M), 1940.

Rating table (gage height, in feet, and discharge, in cubic feet per second). (Shifting-control method used Oct. 2-27, Mar. 28-30, Apr. 10-14, May 5 to Aug. 11; stage-discharge relation affected by ice Nov. 21-23, Dec. 6 to Mar. 27, Apr. 1-4.)

2.6	60	4.0	589
2.8	104	5.0	1,140
3.0	151	6.0	1,740
3.4	290	8.0	3,020

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	149	901	250	180	150	180	320	681	340	141	314	123
2	144	752	411	170	140	180	370	625	304	135	246	124
3	135	714	514	170	140	180	420	560	355	135	196	125
4	130	792	481	170	140	190	390	476	401	139	167	124
5	127	803	416	170	140	190	427	421	356	141	159	293
6	128	714	370	170	150	190	491	412	322	141	145	372
7	127	580	330	170	160	190	671	386	285	141	138	223
8	125	480	350	170	160	190	1.100	338	289	158	133	164
9	128	410	370	170	160	190	1.720	277	334	177	125	145
10	130	460	320	160	160	190	2.220	291	339	171	127	138
11	130	500	300	160	160	190	2.460	276	298	154	137	153
12	137	400	280	160	160	190	2.780	286	299	144	143	167
13	141	350	270	160	160	200	2.640	313	310	159	146	157
14	141	320	250	160	160	210	2.260	292	277	199	171	144
15	138	300	240	160	160	220	1.910	265	260	196	245	134
16	133	280	260	160	150	230	1.580	245	288	171	250	126
17	131	252	270	160	150	240	1.490	231	267	154	210	122
18	129	249	250	160	150	240	1.390	244	230	152	166	118
19	129	239	230	160	150	250	1.310	652	206	180	152	123
20	130	289	220	160	160	240	1.150	1.060	214	294	147	142
21	132	400	230	160	160	240	1.010	992	212	312	157	157
22	133	520	210	160	160	230	867	796	201	230	157	160
23	142	440	210	160	160	230	694	514	180	219	153	167
24	182	311	200	160	160	230	634	492	169	225	169	177
25	254	312	190	150	170	220	525	823	173	194	172	176
26	301	320	190	150	170	220	450	1.370	166	168	161	169
27	291	272	190	150	170	220	426	1.350	161	149	148	170
28	683	266	180	150	180	230	493	1.050	154	175	140	184
29	971	224	180	150	------	277	619	716	148	174	134	260
30	1.030	228	180	150	------	315	676	488	145	224	127	463
31	1.010	------	180	150	------	312	------	401	------	342	123	------
TOTAL	7.791	13.078	8.522	4.990	4.390	6.804	33.473	17.323	7.683	5.699	5.158	5.300
MEAN	251	436	275	161	157	219	1.116	559	256	184	166	177
MAX	1.030	901	514	180	180	315	2.780	1.370	401	342	314	463
MIN	125	224	180	150	140	180	320	231	145	135	123	118
CFSM	.64	1.10	.70	.41	.40	.55	2.83	1.42	.65	.47	.42	.45
IN.	.73	1.23	.80	.47	.41	.64	3.15	1.63	.72	.54	.49	.50

CAL YR 1970 TOTAL 104.494 MEAN 286 MAX 1.890 MIN 81 CFSM .72 IN 9.84
WTR YR 1971 TOTAL 120.211 MEAN 329 MAX 2.780 MIN 118 CFSM .83 IN 11.32

04079000 Wolf River at New London, Wis.

LOCATION.--Lat 44°23'32", long 88°44'25", in NE 1/4 SE 1/4 sec.12, T.22 N., R.14 E., Waupaca County, on right bank 100 ft downstream from Pearl Street bridge in New London, 0.2 mile downstream from Embarrass River, and 56.3 miles upstream from Oshkosh.

DRAINAGE AREA.--2,240 sq mi, approximately.

PERIOD OF RECORD.--March 1896 to current year. Prior to October 1913 monthly discharges only, published in WSP 1307.

GAGE.--Water-stage recorder. Datum of gage is 747.94 ft above mean sea level (levels by Corps of Engineers). Prior to October 4, 1951, nonrecording gage.

AVERAGE DISCHARGE.--75 years, 1,708 cfs (10.35 inches per year).

EXTREMES.--Current year: Maximum discharge, 9,990 cfs Apr. 14 (gage height, 9.68 ft); minimum, 799 cfs Aug. 19 (gage height, 1.12 ft).
Period of record: Maximum daily discharge, 15,500 cfs Apr. 13, 1922 (gage height, 11.4 ft); minimum daily, 150 cfs Mar. 1, 1900.
Maximum stage known, 11.6 ft Apr. 16, 1888, from information by Corps of Engineers.

REMARKS.--Records good except those for winter periods, which are fair.

REVISIONS (WATER YEARS).--WSP 1114: 1943(M), WSP 1337: 1931.

Rating table (gage height, in feet, and discharge, in cubic feet per second). (Shifting-control method used June 16 to Aug. 4, Aug. 21 to Sept. 29; stage-discharge relation affected by ice Nov. 23 to Apr. 8.)

0.5	610	6.0	2,920
1.0	762	8.0	5,080
2.5	1,240	9.0	7,630
4.0	1,800	10.0	11,200

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,100	2,140	1,600	960	920	1,000	2,200	3,810	3,420	1,170	1,430	979
2	1,070	2,260	1,500	980	900	980	2,500	3,690	3,360	1,130	1,530	981
3	1,040	2,430	1,600	960	900	980	2,800	3,600	3,190	1,120	1,510	964
4	984	2,570	1,700	960	900	1,000	3,000	3,510	2,980	1,110	1,370	952
5	946	2,680	1,800	980	880	1,000	3,100	3,430	2,810	1,100	1,230	937
6	937	2,770	1,700	990	880	1,100	3,300	3,330	2,650	1,100	1,160	946
7	938	2,840	1,600	980	880	1,100	3,500	3,210	2,470	1,100	1,100	1,160
8	931	2,880	1,560	990	880	1,100	5,000	3,090	2,260	1,100	1,030	1,280
9	938	2,880	1,500	980	880	1,100	6,380	2,970	2,090	1,100	979	1,200
10	975	2,860	1,500	960	880	1,100	7,430	2,850	1,980	1,100	954	1,100
11	950	2,790	1,500	940	880	1,100	8,180	2,720	1,940	1,100	941	1,000
12	943	2,740	1,500	940	860	1,200	8,910	2,630	1,920	1,100	943	960
13	937	2,700	1,500	940	840	1,200	9,530	2,490	1,890	1,100	957	927
14	952	2,610	1,500	940	840	1,200	9,890	2,310	1,910	1,100	992	946
15	958	2,470	1,400	960	840	1,300	9,980	2,150	1,890	1,100	1,000	958
16	960	2,340	1,400	960	840	1,400	9,780	2,020	1,830	1,100	1,110	943
17	972	2,200	1,400	940	860	1,500	9,280	1,880	1,770	1,100	1,200	915
18	968	2,050	1,300	950	860	1,600	8,650	1,810	1,710	1,000	1,240	868
19	942	1,900	1,300	950	860	1,700	7,950	2,330	1,640	1,000	1,200	862
20	929	1,820	1,200	960	850	1,700	7,300	2,860	1,570	1,000	1,110	902
21	927	1,800	1,100	960	880	1,800	6,720	3,220	1,500	1,100	1,070	929
22	937	1,880	1,100	940	900	1,800	6,300	3,350	1,460	1,230	1,040	945
23	960	1,700	1,100	920	920	1,800	5,970	3,410	1,450	1,300	1,050	994
24	1,000	1,600	1,100	900	940	1,800	5,660	3,500	1,440	1,380	1,070	1,010
25	1,050	1,600	1,100	900	960	1,600	5,360	3,590	1,420	1,430	1,110	994
26	1,130	1,500	1,100	920	980	1,800	5,040	3,650	1,390	1,380	1,110	1,020
27	1,270	1,500	1,100	940	1,000	1,800	4,710	3,660	1,360	1,270	1,090	1,070
28	1,460	1,500	1,100	940	1,000	1,800	4,450	3,600	1,320	1,210	1,080	1,110
29	1,570	1,500	1,030	940	------	1,900	4,170	3,530	1,270	1,200	1,060	1,120
30	1,470	1,500	1,000	940	------	2,000	3,950	3,480	1,220	1,270	1,030	1,170
31	2,040	------	980	940	------	2,100	------	3,440	------	1,310	997	------
TOTAL	33,724	66,010	41,880	29,460	25,020	44,760	180,990	95,120	59,110	35,910	34,693	30,142
MEAN	1,088	2,200	1,351	950	894	1,444	6,033	3,068	1,970	1,158	1,119	1,005
MAX	2,040	2,880	1,800	990	1,000	2,100	9,980	3,810	3,420	1,430	1,530	1,280
MIN	927	1,500	980	900	840	980	2,200	1,810	1,220	1,000	941	862
CFSM	.49	.98	.60	.42	.40	.64	2.69	1.37	.88	.52	.50	.45
IN.	.56	1.10	.70	.49	.42	.74	3.01	1.58	.98	.60	.58	.50

CAL YR 1970 TOTAL 562,847 MEAN 1,542 MAX 7,890 MIN 622 CFSM .69 IN 9.35
WTR YR 1971 TOTAL 676,819 MEAN 1,854 MAX 9,980 MIN 840 CFSM .83 IN 11.24

04080950 Emmons Creek near Rural, Wis.

LOCATION.--Lat 44°18'55", long 89°11'34", in NW 1/4 NE 1/4 sec.8, T.21 N., R.11 E., Waupaca County, 0.8 mile upstream from Long Lake and 1.8 miles west of Rural.

DRAINAGE AREA.--27 sq mi, approximately; the ground-water drainage area is about one-third larger than the surface-water drainage area.

PERIOD OF RECORD.--May 1968 to current year.

GAGE.--Nonrecording gage and crest-stage gage. Altitude of gage is 890 ft (by barometer).

EXTREMES.--Current year: Maximum discharge, 95 cfs May 19 (gage height, 3.78 ft, from graph based on gage readings); minimum daily, 23 cfs Oct. 1-4, Dec. 25-27, Jan. 27 to Feb. 4, Feb. 13, July 26, Aug. 9, 10, 12, 13.

Period of record: Maximum discharge, 142 cfs May 27, 1969 (gage height, 4.28 ft); minimum, 21 cfs Aug. 30, 1969, Feb. 14, Aug. 3, 8, 10, 15-17, 20-28, 1970.

REMARKS.--Records good.

Rating table (gage height, in feet, and discharge, in cubic feet per second). (Stage-discharge relation affected by ice Dec. 25-27, Jan. 4, 5, 7-10, 15-20, Jan. 26 to Feb. 7, Feb. 9, 10.)

2.1	20	3.5	71
2.5	32	4.0	111
3.0	48		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	27	28	24	23	25	29	28	28	26	24	25
2	23	26	25	24	23	25	28	28	28	26	24	25
3	23	38	28	24	23	24	27	28	28	26	24	25
4	23	30	28	24	23	25	27	28	28	27	24	25
5	24	27	26	24	24	25	28	28	27	26	24	25
6	24	27	25	24	24	24	28	27	27	25	24	25
7	24	26	25	24	24	24	29	27	29	24	24	26
8	25	26	24	24	24	24	30	27	28	26	24	26
9	25	25	24	24	24	24	32	27	27	25	23	26
10	24	25	24	24	24	25	30	27	27	25	23	25
11	24	25	25	24	24	25	29	27	27	25	24	25
12	25	25	25	24	24	24	30	27	27	24	23	25
13	25	25	24	24	23	24	29	27	28	25	23	25
14	25	25	24	24	24	25	28	27	29	25	30	25
15	24	24	27	24	24	28	28	27	28	24	25	25
16	24	24	24	24	24	26	30	27	28	24	24	24
17	24	25	24	24	24	26	28	27	28	25	24	25
18	24	24	24	24	24	26	28	27	27	24	24	24
19	24	24	24	24	26	27	28	56	28	26	26	27
20	24	25	24	24	27	26	27	36	29	25	24	26
21	24	25	24	24	26	26	27	30	28	24	24	26
22	24	27	25	24	25	26	27	29	28	24	24	26
23	25	24	24	24	26	26	26	28	27	29	24	27
24	28	24	24	24	25	25	27	38	27	25	24	25
25	25	24	23	24	25	25	28	30	28	24	25	25
26	25	24	23	24	25	25	28	29	27	23	25	27
27	33	24	23	23	26	25	28	28	27	24	26	37
28	36	24	24	23	25	26	29	28	26	26	25	28
29	28	24	24	23	------	26	28	28	26	24	24	26
30	30	24	24	23	------	26	28	28	27	26	24	34
31	28	------	24	23	------	28	------	28	------	24	25	------
TOTAL	787	767	764	739	683	786	849	907	827	776	755	785
MEAN	25.4	25.6	24.6	23.8	24.4	25.4	28.3	29.3	27.6	25.0	24.4	26.2
MAX	36	38	28	24	27	28	32	56	29	29	30	37
MIN	23	24	23	23	23	24	26	27	26	23	23	24
CFSM	.94	.95	.91	.88	.90	.94	1.05	1.09	1.02	.93	.90	.97
IN.	1.08	1.06	1.05	1.02	.94	1.08	1.17	1.25	1.14	1.07	1.04	1.08

CAL YR 1970 TOTAL 9,043 MEAN 24.8 MAX 80 MIN 21 CFSM .92 IN 12.46
WTR YR 1971 TOTAL 9,425 MEAN 25.8 MAX 56 MIN 23 CFSM .96 IN 12.99

04082500 Lake Winnebago at Oshkosh, Wis.

LOCATION.--Lat 44°00'41", long 88°32'01", in SW 1/4 sec.24, T.18 N., R.16 E., Winnebago County, in mouth of the Upper Fox River at Chicago and North Western Railway bridge, 0.2 mile downstream from Main Street Bridge in Oshkosh and 18 miles south of Menasha Dam and outlet.

DRAINAGE AREA.--6,030 sq mi, approximately, at lake outlet at Menasha Dam.

PERIOD OF RECORD.--October 1938 to current year in reports of Geological Survey. Records from 1857 to 1938 in files of Corps of Engineers. A report on Fox River by Corps of Engineers, published as House Document No. 146, 67th Congress, 2nd session, contains semi-monthly records of inflow of Lake Winnebago for the period 1896-1917.

GAGE.--Nonrecording gage read once daily. Datum of gage is 745.05 ft above mean tide at New York City (levels by Corps of Engineers). Prior to 1882, lake levels were referred to Deuchman gage at Lake outlet of Menasha Dam. Datum of Deuchman gage, which is still in existence, is 745.00 ft above mean tide at New York City.

EXTREMES.--Current year: Maximum gage height observed, 3.30 ft June 13; minimum observed, 1.01 ft Mar. 13, 14. Period of record: Maximum gage height observed, 5.33 ft (Deuchman gage) Nov. 8, 1881, minimum observed, -2.00 ft (Deuchman gage) Nov. 28, 1891.

REMARKS.--Lake elevations controlled by dams at Menasha and Neenah, which are operated in the interest of navigation. Crests of both dams are at elevation 746.73 ft. Present limits of regulation are from 21 1/4 in. above the crest of Menasha Dam to crest during navigation season, plus additional 18 in. below crest during winter. Oshkosh staff gage gives true level of lake, while Deuchman gage readings are affected by loss of head in the channel between lake and dam.

COOPERATION.--Records furnished by Corps of Engineers.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.71	2.99	2.59	2.48	2.05	1.39	1.41	2.94	3.12	3.01	2.69	2.59
2	2.65	3.05	2.56	2.49	2.03	1.36	1.52	3.03	3.07	3.04	2.76	2.57
3	2.73	3.06	2.64	2.47	2.00	1.32	1.57	3.09	3.09	2.93	2.76	2.57
4	2.73	3.05	2.71	2.55	1.98	1.28	1.57	3.13	3.11	2.97	2.75	2.55
5	2.68	3.04	2.70	2.54	2.05	1.25	1.59	3.22	3.11	2.96	2.69	2.51
6	2.65	3.00	2.70	2.56	2.01	1.23	1.62	3.17	3.10	2.96	2.69	2.50
7	2.76	3.03	2.69	2.54	1.98	1.17	1.66	3.16	3.24	2.91	2.68	2.57
8	2.74	3.03	2.64	2.52	1.94	1.15	1.70	3.17	3.24	2.98	2.67	2.54
9	2.76	3.06	2.66	2.51	1.93	1.13	1.72	3.15	3.14	2.96	2.67	2.62
10	2.74	2.99	2.65	2.50	1.90	1.09	1.78	3.16	3.09	2.95	2.75	2.44
11	2.70	3.00	2.65	2.48	1.86	1.06	1.84	3.17	3.05	2.93	2.85	2.52
12	2.68	2.99	2.66	2.45	1.84	1.04	1.89	3.22	3.03	2.79	2.67	2.43
13	2.72	2.98	2.66	2.44	1.83	1.01	2.07	3.15	3.30	2.81	2.66	2.49
14	2.64	2.96	2.66	2.43	1.80	1.01	2.07	3.11	3.17	2.84	2.80	2.45
15	2.69	2.94	2.67	2.41	1.78	1.20	2.12	3.02	3.18	2.84	2.73	2.46
16	2.66	2.91	2.64	2.37	1.71	1.26	2.15	3.17	3.18	2.78	2.67	2.44
17	2.64	2.91	2.64	2.34	1.72	1.28	2.17	3.07	3.15	2.81	2.67	2.43
18	2.63	2.86	2.62	2.33	1.69	1.29	2.26	3.03	3.12	2.80	2.67	2.43
19	2.67	2.92	2.62	2.30	1.69	1.36	2.29	3.17	3.24	2.85	2.66	2.39
20	2.67	2.72	2.61	2.31	1.76	1.35	2.38	3.08	3.10	2.91	2.67	2.39
21	2.68	2.71	2.61	2.26	1.70	1.35	2.46	3.15	3.23	2.75	2.66	2.39
22	2.66	2.72	2.61	2.24	1.69	1.32	2.51	3.19	3.12	2.80	2.67	2.41
23	2.68	2.71	2.61	2.20	1.67	1.31	2.63	3.16	3.23	2.82	2.62	2.15
24	2.67	2.80	2.60	2.18	1.63	1.30	2.43	3.21	3.19	2.83	2.64	2.40
25	2.67	2.70	2.60	2.17	1.58	1.28	2.60	3.05	3.27	2.77	2.66	2.33
26	2.68	2.69	2.58	2.15	1.54	1.26	2.71	3.21	3.17	2.72	2.72	2.39
27	2.71	2.68	2.57	2.14	1.52	1.25	2.77	3.27	3.12	2.70	2.63	2.38
28	2.84	2.62	2.56	2.12	1.45	1.26	2.85	3.21	3.09	2.68	2.66	2.43
29	2.88	2.62	2.54	2.08	------	1.29	2.87	3.19	3.11	2.67	2.63	2.43
30	2.88	2.60	2.52	2.10	------	1.32	2.95	3.17	3.04	2.70	2.59	2.55
31	2.93	------	2.48	2.06	------	1.35	------	3.13	------	2.76	2.62	------
MEAN	2.71	2.88	2.62	2.35	1.80	1.24	2.13	3.16	3.15	2.86	2.68	2.46
MAX	2.93	3.06	2.71	2.56	2.05	1.39	2.95	3.27	3.30	3.04	2.85	2.62
MIN	2.63	2.60	2.48	2.06	1.45	1.01	1.41	2.94	3.03	2.67	2.59	2.15

WTR YR 1971 MEAN 2.50 MAX 3.30 MIN 1.01

04084500 Fox River at Rapide Croche Dam, near Wrightstown, Wis.

LOCATION.--Lat 44°19'03", long 88°11'50", in SE 1/4 sec.4, T.21 N., R.19 E., Outagamie County, at Rapide Croche Dam, 2.0 miles upstream from Wrightstown, and 18 miles upstream from mouth.

DRAINAGE AREA.--6,150 sq mi, approximately.

RECORDS AVAILABLE.--March 1896 to September 1917 (monthly discharge only), October 1917 to current year.

GAGE.--Recording headwater and tailwater gages and electric generation are read three times a day and used to compute the discharge records.

AVERAGE DISCHARGE.--75 years, 4,139 cfs.

EXTREMES.--Current year: Maximum daily discharge during year, 10,800 cfs Apr. 16; minimum daily, 1,280 cfs Sept. 11.

Period of record: Maximum daily discharge, 24,000 cfs Apr. 18, 1952; minimum daily, 138 cfs Aug. 2, 1936.

REMARKS.--Records good. Flow regulated by storage in Lake Winnebago (see p. 56). Daily discharge determined from records of flow through turbines, head, gate openings, and lockages through navigation canal. Usually less than about 5 cfs diverted into basin from Wisconsin River at Portage Canal throughout the year.

COOPERATION.--Figures of daily discharge furnished by Corps of Engineers. Records reviewed by Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,760	2,900	4,820	3,150	4,840	6,240	9,630	3,880	6,520	2,640	2,370	1,720
2	1,800	1,590	2,940	2,840	3,840	6,070	8,290	3,420	6,980	2,320	2,160	1,880
3	1,510	3,120	3,190	2,800	4,000	6,100	7,920	3,850	6,720	2,540	1,940	1,860
4	1,680	4,920	2,470	2,940	3,600	6,360	7,140	4,200	6,160	2,680	1,880	1,820
5	1,620	5,020	1,530	2,980	3,780	5,740	7,440	4,650	6,040	2,380	1,820	1,810
6	1,760	4,450	4,140	3,080	3,550	5,840	7,900	5,770	5,580	2,660	1,930	1,820
7	1,420	4,470	2,880	3,060	3,320	5,340	8,260	5,560	6,220	2,170	2,060	1,760
8	1,450	4,060	3,920	2,740	2,700	5,400	9,280	5,580	5,910	2,620	1,540	1,780
9	1,900	4,780	3,040	3,080	3,420	5,350	9,330	5,590	5,720	2,120	2,000	1,690
10	2,140	6,160	3,700	2,670	3,820	5,410	9,560	5,570	6,000	2,020	2,240	1,540
11	1,440	6,140	3,170	2,550	3,580	5,330	9,390	5,600	3,250	1,740	1,840	1,280
12	1,800	5,830	3,340	2,960	3,480	5,160	9,220	4,560	2,740	2,350	2,260	1,680
13	1,610	5,280	3,150	3,340	3,840	5,110	9,100	5,660	3,060	2,280	1,900	1,520
14	1,410	4,930	3,140	[illegible]	3,600	5,550	9,320	5,600	3,030	1,800	1,930	1,700
15	1,430	5,140	3,340	3,540	4,030	9,730	10,200	5,720	2,750	2,140	1,610	1,480
16	1,520	5,740	3,320	3,620	2,760	6,850	10,800	5,480	2,960	1,980	2,080	1,640
17	1,600	5,680	3,280	3,550	3,460	8,160	10,200	3,960	3,200	2,100	1,820	1,380
18	1,460	5,690	3,300	3,680	4,240	8,120	10,300	2,710	3,300	1,900	2,100	1,500
19	1,500	5,690	3,030	3,700	4,830	7,780	10,300	2,660	3,660	2,100	1,920	1,530
20	1,470	5,640	2,340	3,750	4,520	7,760	9,360	3,040	3,500	2,000	1,880	1,650
21	1,540	5,630	3,480	3,960	4,600	8,000	9,420	2,680	3,480	2,430	1,710	1,720
22	1,450	5,700	3,250	3,510	4,980	7,570	10,100	2,520	3,120	2,180	2,320	1,460
23	1,540	6,010	2,900	3,780	5,580	7,930	8,570	2,780	3,420	2,140	2,130	1,640
24	1,670	6,680	3,030	3,640	6,500	7,740	6,600	3,520	4,300	2,080	1,900	1,380
25	1,600	6,610	3,100	3,640	6,800	7,790	5,940	4,050	4,600	2,470	2,100	1,860
26	1,960	5,930	2,780	3,170	6,140	7,760	4,540	4,400	4,340	2,020	1,440	1,480
27	1,640	4,740	3,060	3,460	6,060	7,960	3,270	6,520	4,160	2,280	1,830	1,680
28	2,740	4,760	3,200	4,140	5,930	7,470	3,540	7,140	4,340	2,280	1,760	1,820
29	1,830	5,190	3,130	3,670	------	8,520	3,470	6,940	2,820	1,820	1,940	1,690
30	2,570	4,940	3,340	3,620	------	8,950	3,450	7,120	2,740	2,150	1,920	2,140
31	2,020	------	3,340	3,450	------	8,790	------	6,780	------	2,100	1,730	------
TOTAL	52,750	149,900	96,590	104,750	121,820	215,360	242,620	148,750	131,060	68,390	60,460	49,910
MEAN	1,702	4,997	3,116	3,379	4,351	6,947	8,087	4,798	4,369	2,206	1,950	1,664
MAX	2,740	6,680	4,140	4,140	6,800	9,730	10,800	7,140	6,980	2,680	2,370	2,140
MIN	1,360	1,590	1,530	2,670	2,700	5,110	3,270	2,520	2,740	1,740	1,440	1,280

CAL YR 1970 TOTAL 1,182,160 MEAN 3,239 MAX 12,200 MIN 760
WTR YR 1971 TOTAL 1,442,970 MEAN 3,953 MAX 10,800 MIN 1,280

04085200 Kewaunee River near Kewaunee, Wis.

LOCATION.--Lat 44°27'30", long 87°33'23", in SW 1/4 sec.14, T.23 N., R.24 E., Kewaunee County, on left bank just downstream from bridge on County Trunk F, 2.3 miles west of Kewaunee, and about 7.0 miles upstream from mouth.

DRAINAGE AREA.--129 sq mi.

PERIOD OF RECORD.--Annual maximum, water years 1958-65, and occasional low-flow measurements, water years 1963-64. September 1964 to current year. No winter records for water years 1965 and 1966.

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is about 590 ft (from topographic map). Apr. 3, 1957, to Sept. 2, 1964, crest-stage gage only at same site and datum.

AVERAGE DISCHARGE.--5 years, 62.6 cfs (6.59 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,620 cfs Apr. 1 (gage height, 12.45 ft); maximum gage height, 14.39 ft Mar. 16 (backwater from ice); minimum discharge, 9.2 cfs Sept. 16 (gage height, 8.12 ft).
Period of record: Maximum discharge, 6,500 cfs Mar. 30, 1960 (gage height, 16.03 ft); minimum recorded, 4.5 cfs Nov. 3, 4, 1966 (gage height, 8.14 ft).

REMARKS.--Records good except those for winter periods, which are fair.

Rating tables (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 24-27, Dec. 10-13, 18, 19, 22, 23, Dec. 25 to Mar. 31.)

Oct. 1 to Mar 31

8.1	9.1	10.0	325
8.3	16	11.0	702
8.5	32	12.0	1,240
9.0	93	13.0	2,030
9.5	192		

Apr. 1 to Sept. 30

8.1	9.4	9.5	181
8.2	12	10.0	302
8.3	18	11.0	683
8.5	36	12.0	1,260
9.0	98	13.0	2,140

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	46	156	26	18	31	1,220	91	45	20	17	12
2	13	41	207	26	19	31	1,370	87	47	18	16	11
3	13	137	125	26	19	31	768	77	50	17	16	11
4	12	228	310	25	19	31	519	70	48	17	14	11
5	12	145	194	24	19	30	528	73	45	17	14	11
6	13	81	78	24	19	30	727	69	40	15	12	11
7	13	50	96	24	19	30	989	64	41	14	12	11
8	14	45	61	23	19	30	1,020	60	42	18	12	10
9	14	41	44	23	19	30	1,000	56	41	23	12	11
10	14	50	40	22	19	30	655	52	36	18	13	11
11	14	52	36	22	19	30	468	50	32	16	15	10
12	14	45	33	22	19	30	435	52	41	14	16	10
13	13	37	30	21	19	31	380	52	41	14	15	10
14	13	34	29	21	19	40	264	48	41	13	20	10
15	13	33	36	21	19	90	209	46	30	13	20	10
16	12	28	37	20	20	1,100	175	45	27	12	19	9.4
17	12	27	35	20	20	1,300	160	42	26	12	16	10
18	12	26	32	20	20	700	142	60	24	12	14	9.4
19	12	25	29	20	20	560	129	159	54	15	14	10
20	13	33	25	19	20	500	119	109	60	15	14	13
21	14	126	29	18	20	450	109	77	48	12	14	12
22	17	110	28	18	20	290	98	64	37	12	13	12
23	17	61	27	18	20	270	94	57	56	14	13	12
24	17	84	26	17	20	260	91	61	91	14	12	11
25	19	46	26	17	21	250	84	77	58	14	12	11
26	19	37	26	17	21	240	78	70	51	13	13	12
27	18	36	25	17	28	230	77	62	35	12	12	13
28	37	33	25	17	31	230	100	56	29	13	12	17
29	93	37	25	18	------	240	106	52	23	12	12	17
30	63	70	25	18	------	360	91	49	21	13	12	139
31	50	------	26	18	------	660	------	47	------	17	12	------
TOTAL	631	1,821	1,923	642	564	8,155	12,205	2,034	1,250	459	438	467.8
MEAN	20.4	60.7	62.0	20.7	20.1	263	407	65.6	41.7	14.8	14.1	15.6
MAX	93	228	310	26	31	1,300	1,370	159	81	23	20	139
MIN	12	25	25	17	18	30	77	42	21	12	12	9.4
CFSM	.16	.47	.48	.16	.16	2.04	3.16	.51	.32	.11	.11	.12
IN.	.18	.53	.55	.19	.16	2.35	3.52	.59	.36	.13	.13	.13

CAL YR 1970 TOTAL 15,306.7 MEAN 41.9 MAX 510 MIN 6.0 CFSM .32 IN 4.41
WTR YR 1971 TOTAL 30,589.8 MEAN 83.8 MAX 1,370 MIN 9.4 CFSM .65 IN 8.82

PEAK DISCHARGE (BASE, 500 CFS).--Apr. 1 (2200) 1,620 cfs (12.45 ft).

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
3-16	--	--	a1,600	4- 9	0600	11.86	1,160
4- 1	2200	12.45	1,620				

a About.

04085500 Cedar Lake near Kiel, Wis.

LOCATION.--Lat 43°55'35", long 87°56'25", in SW 1/4 sec.24, T.17 N., R.21 E., Manitowoc County, at Cedar Lake Resort on narrows of Lake, 5.8 miles east of Kiel.

DRAINAGE AREA.--1.33 sq mi.

PERIOD OF RECORD.--August 1936 to September 1942; April 1945 to current year (fragmentary).

GAGE.--Nonrecording gage. Altitude of gage is 890 ft (from topographic map).

EXTREMES.--Current year: Maximum elevation observed, 95.48 ft May 1, 8, 15; minimum observed, 94.16 ft Oct. 24.

Period of record: Maximum elevation observed, 98.72 ft Mar. 9, 1946; minimum observed, 93.34 ft Oct. 4, Nov. 1, 1958, Jan. 17, 1959.

An elevation of 100.37 ft was observed May 20, 1929, by Wisconsin Department of Natural Resources.

REMARKS.--Gage heights have been reduced to elevations above datum assumed for this lake by Wisconsin Department of Natural Resources. Lake ice covered about Dec. 10 to Apr. 10.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							5.09	5.48				
2				4.46								
3	4.28						5.09			5.20		
4												4.80
5			4.46						5.40			
6	4.25				4.72	5.02						
7		4.40										
8								5.48				
9				4.49								
10	4.29				4.66		5.22			5.10		
11												4.74
12			4.50		4.66			5.46	5.40			
13					4.72	5.02						
14		4.44									4.86	
15								5.48				
16				4.72					5.38			
17	4.18						5.40			5.10		
18												4.66
19		4.40	4.52						5.40			
20					4.92	5.02						
21		4.50									4.88	
22								5.42				
23				4.72								
24	4.16						5.44			5.08		
25												4.60
26			4.54						5.40		4.88	
27					5.02	5.02				5.05		
28		4.50									4.84	
29					------			5.46				
30			4.54	4.72	------	5.02						4.68
31	4.30	------	4.54		------		------		------			------

NOTE.--Add 90 ft to obtain elevation above datum assumed for this lake by Wisconsin Department of Natural Resources.

04086000 Sheboygan River at Sheboygan, Wis.

LOCATION.--Lat 43°44'25", long 87°45'37", in E 1/2 sec.29, T.15 N., R.23 E., Sheboygan County, on left bank 400 ft upstream from bridge on State Highway 141, near west city limits of Sheboygan, and 4.2 miles upstream from mouth.

DRAINAGE AREA.--432 sq mi.

PERIOD OF RECORD.--June 1916 to September 1924 (published as "near Sheboygan"), October 1950 to current year. Monthly discharge only for some periods, published in WSP 1307, 1727.

GAGE.--Water-stage recorder. Datum of gage is 584.00 ft above mean sea level. June 1916 to June 1924, nonrecording gage at site 0.7 mile downstream at different datum. November 1950 to June 1951, nonrecording gage at site 0.3 mile downstream at datum 3.15 ft lower.

AVERAGE DISCHARGE.--29 years (1916-24, 1950-71), 224 cfs (7.04 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,820 cfs Apr. 1 (gage height, 7.60 ft); minimum, 22 cfs Aug. 8 (gage height, 1.59 ft).

Period of record: Maximum discharge observed, 7,140 cfs Mar. 26, 1920 (gage height, 9.40 ft, datum then in use); minimum observed, about 1 cfs Aug. 27, 1922 (gage height, 1.48 ft, datum then in use), caused by shutdown of powerplants.

REMARKS.--Records good except those for winter periods, which are fair. Diurnal fluctuation caused by numerous powerplants above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 12-15, 20, Dec. 24 to Feb. 17, Mar. 6-10, 23-26.)

1.6	24	2.5	135	4.0	550
1.8	37	3.0	240	5.0	1,000
2.0	57	3.5	371	6.0	1,620
				8.0	3,170

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66	172	189	94	62	871	2,230	263	84	60	45	36
2	61	160	197	90	68	937	2,600	255	89	64	42	37
3	54	295	202	92	72	769	1,910	242	100	56	37	37
4	48	466	290	94	78	639	1,420	232	89	54	40	34
5	54	420	242	82	72	494	1,360	229	82	49	33	42
6	36	295	110	74	66	440	1,630	228	77	42	31	34
7	43	217	180	74	64	400	1,980	211	88	39	31	33
8	44	182	170	80	62	370	2,010	192	79	46	27	32
9	44	185	185	88	60	340	2,000	182	87	47	26	34
10	42	258	158	90	64	320	1,880	169	74	54	36	35
11	42	303	125	90	70	331	1,560	160	65	45	37	35
12	41	265	130	90	69	299	1,520	170	65	41	36	28
13	43	240	120	90	66	299	2,400	170	76	37	38	28
14	44	210	120	88	62	476	1,900	165	91	46	40	28
15	44	185	110	80	64	1,380	1,450	143	90	34	36	30
16	45	174	143	76	68	1,810	1,160	121	74	32	40	32
17	42	176	145	72	74	1,890	1,020	117	68	52	35	30
18	43	176	141	70	84	1,750	907	128	63	41	34	29
19	38	174	132	76	100	1,040	814	140	61	31	33	34
20	38	217	110	80	120	797	735	139	78	28	33	46
21	43	290	146	84	190	869	605	130	85	28	32	43
22	43	258	127	84	350	832	546	112	89	34	42	43
23	46	133	121	80	300	800	406	102	91	35	52	38
24	50	133	120	80	320	760	286	105	87	37	56	36
25	50	189	120	76	350	740	199	135	85	47	50	36
26	56	185	130	68	430	720	163	176	78	38	47	43
27	75	164	130	64	729	663	159	154	75	34	42	54
28	118	156	100	60	842	682	177	132	73	31	36	50
29	292	164	90	68	------	1,000	245	120	66	33	35	49
30	263	162	92	58	------	1,180	270	105	65	32	34	45
31	213	------	94	142	------	1,440	------	89	------	39	33	------
TOTAL	2,161	6,604	4,469	2,534	4,955	25,238	35,542	5,016	2,374	1,286	1,169	1,111
MEAN	69.7	220	144	81.7	177	814	1,185	162	79.1	41.5	37.7	37.0
MAX	292	466	290	142	842	1,890	2,600	263	100	64	56	54
MIN	36	133	90	58	60	299	159	89	61	28	26	28
CFSM	.16	.51	.33	.19	.41	1.88	2.74	.38	.19	.10	.09	.09
IN.	.19	.57	.38	.22	.43	2.17	3.06	.43	.20	.11	.10	.10

CAL YR 1970 TOTAL 38,251 MEAN 105 MAX 500 MIN 24 CFSM .24 IN 3.29
WTR YR 1971 TOTAL 92,459 MEAN 253 MAX 2,600 MIN 26 CFSM .59 IN 7.96

PEAK DISCHARGE (BASE, 1,500 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
3-16	2400	6.55	2,000	4-13	0800	7.43	2,680
4- 1	2400	7.60	2,820				

04086150 Milwaukee River at Kewaskum, Wis.

LOCATION.--Lat 43°31'02", long 88°13'24", in SE 1/4 SE 1/4 sec.9, T.12 N., R.19 E., Washington County, on right abutment of small dam in Kewaskum, 50 ft above unnamed southwest tributary and 2.6 miles above East Branch Milwaukee River.

DRAINAGE AREA.--146 sq mi.

PERIOD OF RECORD.--April 1968 to current year.

GAGE.--Nonrecording gage and crest-stage gage. Altitude of gage is 930 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 736 cfs Apr. 1 (gage height, 5.54 ft); maximum observed gage height, 5.80 ft Mar. 18 (backwater from ice); minimum observed, 3.2 cfs Sept. 17 (gage height, 1.76 ft).

Period of record: Maximum discharge observed, 736 cfs Apr. 1 (gage height, 5.54 ft); minimum observed, 1.1 cfs Aug. 25-28, 1970 (gage height, 1.64 ft).

REMARKS.--Records good except those for winter periods and discharges below 8 cfs, which are fair.

Rating table (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 8 to Mar. 20.)

Oct. 1-31		Nov. 1 to Sept. 30			
1.9	6.8	1.7	1.9	2.5	40
2.1	15	1.8	4.0	3.0	89
2.3	28	1.9	6.8	4.0	260
2.5	46	2.1	15	5.0	535
3.0	99	2.3	26	6.0	920

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	77	57	28	21	200	736	137	37	18	7.2	6.8
2	22	66	55	28	21	200	640	128	37	18	8.6	6.8
3	19	84	64	28	21	190	605	119	37	18	8.6	6.8
4	15	108	87	28	23	180	570	108	32	17	7.9	6.8
5	19	102	82	27	25	160	470	108	31	18	7.9	6.8
6	14	87	66	26	25	160	500	102	30	17	6.0	6.8
7	14	77	51	26	24	150	570	94	32	16	6.0	6.2
8	11	68	43	25	22	130	680	89	34	17	6.0	6.2
9	10	62	40	25	21	120	640	92	34	16	5.4	4.6
10	11	110	37	25	21	120	470	73	30	14	4.8	4.6
11	11	102	37	25	21	120	440	66	23	12	6.0	3.6
12	10	89	35	25	20	120	410	70	23	10	5.4	4.0
13	11	82	37	25	20	120	640	66	28	9.8	6.0	4.0
14	10	73	35	25	20	150	640	64	31	9.8	13	4.0
15	10	66	33	24	20	300	440	62	24	12	11	3.6
16	9.8	58	33	24	20	450	399	62	22	12	8.3	3.6
17	9.8	55	34	24	21	460	354	53	21	12	9.0	3.2
18	9.8	48	35	24	22	480	295	53	20	10	7.5	3.6
19	9.8	48	37	24	26	440	269	60	24	10	6.8	4.6
20	9.8	58	35	24	62	380	229	55	25	9.4	6.2	5.7
21	10	94	32	24	80	350	216	53	30	8.6	6.2	6.2
22	10	89	31	24	80	310	189	46	30	8.6	6.2	5.1
23	11	35	31	24	80	270	172	46	30	8.6	9.0	5.7
24	12	44	31	24	80	260	152	48	25	7.9	8.3	6.2
25	15	41	32	24	92	240	140	56	30	8.6	9.8	5.7
26	14	38	31	24	130	230	119	62	26	8.6	9.8	8.3
27	14	36	31	23	170	230	116	55	27	7.2	8.3	15
28	15	37	30	22	190	240	140	51	30	6.5	8.3	11
29	46	41	29	22	------	260	140	48	30	6.0	7.5	12
30	76	48	28	22	------	290	140	43	21	5.4	6.8	9.0
31	99	------	28	22	------	350	------	40	------	6.0	6.8	------
TOTAL	583.0	2,023	1,267	765	1,378	7,660	11,521	2,199	854	358.0	234.6	186.5
MEAN	18.8	67.4	40.9	24.7	49.2	247	384	70.9	28.5	11.5	7.57	6.22
MAX	99	110	87	28	190	480	736	137	37	18	13	15
MIN	9.8	35	28	22	20	120	116	40	20	5.4	4.8	3.2
CFSM	.13	.46	.28	.17	.34	1.69	2.63	.49	.20	.08	.05	.04
IN.	.15	.52	.32	.19	.35	1.95	2.94	.56	.22	.09	.06	.05

CAL YR 1970 TOTAL 10,922.7 MEAN 29.9 MAX 164 MIN 1.1 CFSM .20 IN 2.78
WTR YR 1971 TOTAL 29,029.1 MEAN 79.5 MAX 736 MIN 3.2 CFSM .54 IN 7.40

04086200 East Branch Milwaukee River at New Fane, Wis.

(Formerly published as East Branch Milwaukee River near New Fane, Wis.)

LOCATION.--Lat 43°33'01", long 88°11'18", in center of sec.35, T.13 N., R.19 E., Fond du Lac County, on left bank at upstream side of bridge on County Trunk Highway S, 0.4 mile southwest of New Fane, 0.5 mile downstream from recreation dam (formerly a mill dam), and 6.0 miles upstream from mouth.

DRAINAGE AREA.--57.2 sq mi (revised).

PERIOD OF RECORD.--April 1968 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 940 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, about 190 cfs Apr. 2; maximum gage height, 4.98 ft Apr. 3 (backwater from ice); minimum daily discharge, 0.76 cfs Sept. 16.

Period of record: Maximum discharge, about 190 cfs Apr. 2, 1971; minimum daily, 0.76 cfs Sept. 16, 1971

REVISION.--The maximum discharge for the water year 1969 has been revised to 96 cfs June 28, 1969 (gage height, 2.60 ft), superseding figure published in WRD Wisconsin 1969.

REMARKS.--Records good except those for periods of ice effect or no gage-height record, which are fair.

Rating table (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 23-26, Dec. 6 to Apr. 6.)

0.70	0.7	1.1	2.3	1.8	26
.80	.9	1.2	2.9	2.0	42
.90	1.2	1.4	6.3	2.5	89
1.0	1.7	1.6	14	3.0	164
				3.5	249

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	33	22	13	10	80	150	49	17	9.4	3.5	3.0
2	9.4	32	22	14	10	70	180	46	18	8.3	5.5	2.9
3	8.4	32	24	14	10	68	160	45	18	8.0	4.2	2.9
4	7.4	35	32	14	11	68	160	42	16	7.3	4.9	3.3
5	7.0	35	19	13	12	72	150	40	16	7.0	4.0	3.6
6	6.6	32	18	13	13	66	150	39	15	6.1	3.6	3.6
7	6.1	30	17	12	12	60	147	36	14	5.9	3.5	2.8
8	6.3	28	17	12	11	54	150	35	14	8.3	3.5	2.8
9	6.6	31	18	12	11	50	154	32	12	7.0	3.5	2.8
10	6.8	36	18	12	11	52	147	31	12	8.0	9.0	2.7
11	6.8	35	19	13	12	60	135	28	10	7.3	4.9	2.1
12	6.6	33	19	12	11	70	149	28	11	5.3	4.3	2.0
13	6.2	31	18	12	11	80	164	28	14	4.9	4.3	2.1
14	6.0	28	16	12	11	110	162	28	15	4.9	9.7	1.3
15	6.0	25	16	12	11	140	150	30	14	4.7	5.3	1.2
16	6.2	22	17	11	11	130	133	28	12	4.3	4.9	.76
17	6.0	20	17	11	12	120	121	26	12	4.2	4.9	1.0
18	6.0	19	17	11	12	110	110	27	10	4.5	4.9	1.7
19	6.0	18	17	12	15	100	102	30	11	4.7	4.5	1.7
20	6.6	28	17	12	29	94	92	27	14	4.3	4.2	1.7
21	6.6	33	17	12	28	86	82	24	17	4.2	4.0	1.6
22	6.4	31	17	13	27	80	77	22	16	4.0	4.0	1.6
23	6.6	30	16	13	27	74	69	21	15	4.2	8.0	1.6
24	7.0	29	16	13	27	70	57	21	16	4.2	6.6	1.7
25	7.6	27	16	13	27	68	51	27	16	4.2	7.0	1.9
26	9.0	24	15	13	70	68	45	28	16	4.2	5.3	4.0
27	12	24	14	12	84	68	45	24	15	3.9	5.3	5.1
28	21	20	13	12	88	68	51	22	13	3.6	4.5	5.3
29	32	18	13	12	------	70	55	21	11	3.5	3.9	5.5
30	35	19	13	11	------	76	52	19	11	3.7	3.6	4.9
31	35	------	13	10	------	83	------	18	------	3.6	3.0	------
TOTAL	315.2	838	543	381	624	2,465	3,450	922	421	167.7	152.3	79.16
MEAN	10.2	27.9	17.5	12.3	22.3	79.5	115	29.7	14.0	5.41	4.91	2.64
MAX	35	36	32	14	88	140	180	49	18	9.4	9.7	5.5
MIN	6.0	18	13	10	10	50	45	18	10	3.5	3.0	.76
CFSM	.18	.49	.31	.22	.39	1.39	2.01	.52	.24	.09	.09	.05
IN.	.20	.54	.35	.25	.41	1.60	2.24	.60	.27	.11	.10	.05

CAL YR 1970 TOTAL 5,295.90 MEAN 14.5 MAX 64 MIN 2.4 CFSM .25 IN 3.44
WTR YR 1971 TOTAL 10,358.36 MEAN 28.4 MAX 180 MIN .76 CFSM .50 IN 6.74

NOTE.--No gage-height record Mar. 1-31.

04086340 North Branch Milwaukee River near Fillmore, Wis.

LOCATION.--Lat 43°28'58", long 88°03'39", in NW 1/4 sec.25, T.12 N., R.20 E., Washington County, on right bank downstream from County Trunk Highway M, 1.1 miles south of Fillmore and 2.0 miles upstream from mouth.

DRAINAGE AREA.--153 sq mi.

RECORDS AVAILABLE.--April 1968 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 800 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 664 cfs Apr. 13 (gage height, 5.57 ft); minimum, 11 cfs Sept. 16, 17 (gage height, 0.51 ft).
Period of record: Maximum discharge, 664 cfs Apr. 13, 1971 (gage height, 5.57 ft); minimum, 3.0 cfs Aug. 17, 18, 1970 (gage height, 0.19 ft).

REMARKS.--Records good except those for winter period, which are fair.

Rating table (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 23, 24, Dec. 6-8, 13-17, Dec. 21 to Apr. 1.)

0.5	11	3.0	159
1.0	30	4.0	276
1.5	54	5.0	475
2.0	83	5.5	640

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	111	77	42	34	260	450	127	44	21	15	16
2	36	100	79	43	34	250	580	120	44	18	17	15
3	32	112	81	44	35	230	574	117	45	17	15	15
4	30	131	87	43	36	210	523	106	45	18	14	15
5	27	133	78	42	40	190	472	99	42	21	14	15
6	26	130	64	40	43	180	443	94	39	18	13	16
7	25	115	56	39	40	160	443	99	39	15	13	15
8	25	100	58	38	35	150	467	84	41	19	12	14
9	26	91	53	38	32	140	467	77	34	22	12	14
10	27	94	60	38	30	130	445	70	32	19	13	13
11	28	96	62	37	30	130	416	66	31	17	14	13
12	28	98	59	37	31	130	451	74	31	16	15	12
13	28	90	52	37	31	140	623	75	34	16	14	12
14	28	84	50	37	31	170	529	76	37	16	19	13
15	28	74	54	35	30	450	469	74	36	16	19	12
16	26	64	56	35	31	450	402	68	32	15	17	11
17	26	56	60	34	32	420	348	61	33	15	16	11
18	26	54	63	35	34	380	296	58	32	14	15	12
19	26	54	66	36	40	330	250	62	28	15	14	13
20	26	68	62	37	58	300	218	60	30	14	14	18
21	28	86	58	38	88	270	187	56	35	14	14	17
22	29	82	56	39	88	250	162	52	37	13	14	16
23	30	91	54	39	84	230	140	49	41	15	23	16
24	34	76	52	39	80	220	123	49	36	17	24	16
25	37	62	52	39	120	210	118	68	32	16	26	16
26	37	55	54	38	200	210	108	79	33	17	22	21
27	39	54	52	38	250	210	104	76	32	16	20	31
28	80	53	48	37	270	230	122	72	29	24	19	36
29	120	56	45	36	------	270	126	64	25	26	17	31
30	119	70	43	35	------	310	128	55	23	16	16	26
31	116	------	42	34	------	350	------	48	------	15	16	------
TOTAL	1,235	2,540	1,833	1,179	1,887	7,560	10,184	2,325	1,052	531	506	501
MEAN	39.8	84.7	59.1	38.0	67.4	244	339	75.0	35.1	17.1	16.3	16.7
MAX	120	133	87	44	270	450	623	127	45	26	26	36
MIN	25	53	42	34	30	130	104	48	23	13	12	11
CFSM	.26	.55	.39	.25	.44	1.59	2.22	.49	.23	.11	.11	.11
IN.	.30	.62	.45	.29	.46	1.84	2.48	.57	.26	.13	.12	.12

CAL YR 1970 TOTAL 17,277.9 MEAN 47.3 MAX 180 MIN 3.2 CFSM .31 IN 4.20
WTR YR 1971 TOTAL 31,333.0 MEAN 85.8 MAX 623 MIN 11 CFSM .56 IN 7.62

04086360 Milwaukee River at Waubeka, Wis.

LOCATION.--Lat 43°28'22", long 87°59'23", in SE 1/4 sec.28, T.12 N., R.21 E., Ozaukee County, on right bank 100 ft downstream from bridge on County Trunk Highway I, 800 ft downstream from recreation pond dam at Waubeka, and 2.4 miles downstream from North Branch Milwaukee River.

DRAINAGE AREA.--428 sq mi.

PERIOD OF RECORD.--March 1968 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 770 ft (from topographic map). Prior to Aug. 1, 1968, nonrecording gage at same site and datum.

EXTREMES.--Current year: Maximum discharge, 2,500 cfs Apr. 13 (gage height, 7.35 ft); maximum gage height, 7.64 ft Mar. 15 (backwater from ice); minimum discharge, 26 cfs July 21, 22 (gage height, 1.96 ft).

Period of record: Maximum discharge, 2,500 cfs Apr. 13, 1971 (gage height, 7.35 ft); minimum, 19 cfs Aug. 18, 1970 (gage height, 1.90 ft).

REMARKS.--Records good except those for period of ice effect, which are fair.

Rating table (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 13 to Apr. 4.)

1.9	19	4.0	489
2.1	37	5.0	894
2.5	93	6.0	1,380
3.0	191	7.1	2,250
3.5	315		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	110	268	189	120	100	920	1,600	361	143	84	43	43
2	114	246	193	120	100	880	2,000	364	143	80	41	42
3	86	240	206	120	100	820	1,700	341	143	78	44	41
4	90	292	222	120	100	760	1,500	334	139	75	44	42
5	74	309	220	120	110	720	1,420	315	125	78	42	41
6	69	300	215	110	120	690	1,350	303	120	75	42	41
7	68	270	204	110	110	560	1,330	286	118	74	44	37
8	66	243	222	110	90	500	1,310	273	120	71	39	36
9	69	227	187	110	90	470	1,260	263	112	87	35	37
10	70	250	180	100	80	450	1,250	250	107	89	33	35
11	69	260	243	100	90	430	1,170	180	102	93	39	33
12	69	263	215	100	90	420	1,410	236	100	89	42	32
13	68	246	170	100	90	410	2,250	234	105	55	41	30
14	68	227	160	100	80	860	1,640	231	107	37	55	30
15	68	209	170	100	80	1,600	1,390	229	107	27	74	30
16	68	187	180	100	80	1,700	1,220	215	102	28	48	27
17	64	176	193	100	90	1,700	1,060	200	102	27	45	29
18	62	168	193	100	90	1,500	957	191	102	27	47	49
19	57	160	193	100	100	1,200	909	160	100	29	44	38
20	57	183	189	100	170	1,100	686	172	105	28	43	38
21	63	229	170	100	390	1,000	643	172	105	26	41	42
22	68	234	170	110	360	940	586	166	103	27	42	39
23	68	191	160	110	340	860	522	155	114	37	57	39
24	72	165	150	110	350	760	470	162	116	53	71	39
25	90	160	150	110	390	720	445	213	107	53	78	41
26	82	159	150	110	590	720	388	222	108	48	77	49
27	84	160	140	110	800	720	234	211	96	48	60	72
28	160	162	130	100	960	720	395	200	93	52	55	89
29	281	170	120	100	------	840	430	183	89	60	49	78
30	300	178	120	100	------	940	384	164	86	49	44	66
31	232	------	120	100	------	1,100	------	149	------	45	42	------
TOTAL	3,005	6,552	5,524	3,300	6,140	26,990	31,809	7,135	3,319	1,729	1,501	1,285
MEAN	96.9	218	178	106	219	870	1,060	230	111	55.8	48.4	42.8
MAX	300	309	243	120	960	1,700	2,250	364	143	93	78	89
MIN	57	159	120	100	80	410	234	149	86	26	33	27
CFSM	.23	.51	.42	.25	.51	2.03	2.48	.54	.26	.13	.11	.10
IN.	.26	.57	.48	.29	.53	2.34	2.76	.62	.29	.15	.13	.11

CAL YR 1970 TOTAL 47,522 MEAN 130 MAX 678 MIN 20 CFSM .30 IN 4.13
WTR YR 1971 TOTAL 98,279 MEAN 269 MAX 2,250 MIN 26 CFSM .63 IN 8.54

04087000 Milwaukee River at Milwaukee, Wis.

LOCATION.--Lat 43°06'00", long 87°54'32", in NE 1/4 sec.5, T.7 N., R.22 E., Milwaukee County, on left bank near northeast limits of Milwaukee in Estabrook Park, 2,000 ft downstream from Port Washington Road Bridge and 6.5 miles upstream from mouth.

DRAINAGE AREA.--686 sq mi.

PERIOD OF RECORD.--April 1914 to current year. Published as "near Milwaukee" prior to 1936.

GAGE.--Water-stage recorder. Datum of gage is 607.23 ft above mean sea level (levels by Corps of Engineers). Prior to Apr. 6, 1929, nonrecording gage near present site at different datum. Apr. 6, 1929, to Jan. 8, 1934, nonrecording gage at bridge half a mile upstream at different datum.

AVERAGE DISCHARGE.--57 years, 380 cfs (7.52 inches per year).

EXTREMES.--Current year: Maximum discharge, 4,130 cfs Apr. 13 (gage height, 5.60 ft); minimum, 3.8 cfs Oct. 23 (gage height, 1.54 ft), result of regulation.

Period of record: Maximum discharge, 15,100 cfs Mar. 20, 1918, Aug. 6, 1924 (gage height, 9.00 ft, datum then in use, from floodmark for 1918, from graph based on gage reading for 1924), no flow Sept. 8, 1943.

REMARKS.--Records good except those for winter periods, which are fair. Occasional regulation caused by dams above station.

REVISIONS (WATER YEARS).--WSP 564: 1918(M). WSP 924: 1940. WSP 1207: 1936(M). WSP 1337: 1915-17(M), 1918, 1919-21(M), 1922, 1923(M), 1924, 1925-33(M). WSP 1557: Drainage area.

Rating table (gage height, in feet, and discharge, in cubic feet per second). (Shifting-control methods used June 20 to Sept. 23. Stage-discharge relation affected by ice Jan. 8 to Feb. 24, Mar. 1-13.)

1.7	15	3.0	700
1.8	32	4.0	1,750
2.1	120	5.0	3,180
2.5	325	6.0	4,900

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	222	601	340	210	190	1,400	2,650	552	273	195	85	105
2	137	486	350	220	180	1,300	3,390	530	266	191	177	107
3	174	612	370	220	190	1,200	3,060	507	259	180	91	107
4	152	462	400	220	200	1,100	2,650	478	261	172	81	98
5	166	551	400	210	230	1,000	2,400	468	229	175	90	104
6	145	542	390	200	210	900	2,110	437	204	188	97	82
7	134	524	370	200	170	800	2,000	411	204	199	97	90
8	134	477	400	210	160	740	1,990	384	201	613	90	90
9	146	413	370	200	150	680	1,970	353	199	175	112	95
10	141	409	340	200	160	620	1,900	339	197	135	127	85
11	119	445	430	200	170	580	1,810	403	213	150	112	74
12	120	442	380	200	170	560	1,990	309	202	155	103	75
13	125	463	310	200	160	580	3,810	340	265	170	129	79
14	118	440	300	200	160	1,060	3,780	339	213	156	485	94
15	116	396	320	200	160	2,380	2,920	319	219	118	125	75
16	108	351	340	190	160	2,710	2,230	322	219	88	114	73
17	106	397	350	180	170	2,690	1,870	163	214	72	125	75
18	96	271	350	190	200	2,670	1,570	216	456	67	98	64
19	159	255	350	180	260	2,260	1,370	292	229	115	93	145
20	449	390	340	190	700	1,760	1,130	255	397	90	99	107
21	99	338	320	200	620	1,700	995	248	241	77	94	91
22	99	377	290	200	600	1,610	888	240	239	70	218	86
23	17	295	280	120	660	1,380	811	228	257	82	170	87
24	104	290	270	180	660	1,220	705	271	233	65	173	84
25	113	280	270	210	800	1,170	633	497	279	94	150	102
26	132	280	270	210	1,240	1,130	593	416	238	126	150	141
27	110	290	250	200	1,640	1,190	584	403	223	98	157	162
28	208	300	240	180	1,520	1,320	444	338	230	89	126	148
29	464	310	220	180	------	1,560	603	287	222	87	107	156
30	435	320	210	190	------	1,700	613	252	208	93	114	146
31	543	------	210	190	------	1,990	------	227	------	99	111	------
TOTAL	5,388	11,913	10,030	6,070	11,880	42,850	53,469	10,824	7,290	4,383	4,100	3,007
MEAN	174	397	324	196	424	1,382	1,782	349	243	141	132	100
MAX	543	612	430	220	1,640	2,710	3,810	552	456	613	485	162
MIN	17	255	210	120	150	560	444	163	197	65	81	64
CFSM	.25	.58	.47	.29	.62	2.01	2.60	.51	.35	.21	.19	.15
IN.	.29	.65	.54	.33	.64	2.32	2.90	.59	.40	.24	.22	.16

CAL YR 1970 TOTAL 91,455 MEAN 251 MAX 1,900 MIN 17 CFSM .37 IN 4.96
WTR YR 1971 TOTAL 171,204 MEAN 469 MAX 3,810 MIN 17 CFSM .68 IN 9.28

PEAK DISCHARGE (BASE, 2,000 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
3-17	1000	4.86	2,960	4-13	1800	5.60	4,130
4- 2	1100	5.18	3,450	7- 8	0700	5.34	3,480

NOTE.--No gage-height record Nov. 24 to Jan. 8.

04087120 Menomonee River at Wauwatosa, Wis.

LOCATION.--Lat 43°02'44", long 87°59'59", in NW 1/4 sec.27, T.7 N., R.21 E., Milwaukee County, near left bank on downstream side of 70th Street bridge in Wauwatosa, 800 ft downstream from Honey Creek, and 6.2 miles upstream from mouth.

DRAINAGE AREA.--123 sq mi.

PERIOD OF RECORD.--October 1961 to current year.

GAGE.--Nonrecording gage and crest-stage gage. Datum of gage is 630.86 ft above mean sea level.

AVERAGE DISCHARGE.--10 years, 69.0 cfs (7.62 inches per year).

EXTREMES.--Current year: Maximum observed discharge, 2,180 cfs about Mar. 15 (gage height, 5.64 ft); minimum daily, 10 cfs Sept. 12.

Period of record: Maximum discharge, 6,010 cfs July 18, 1964 (gage height, 9.03 ft) from rating curve extended above 3,200 cfs on the basis of slope conveyance study; minimum daily, 2.8 cfs Jan. 18, 1964.

REMARKS.--Records poor.

Rating tables (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Jan. 3-6, 13-27, Jan. 29 to Feb. 6.)

Oct. 1 to June 18

1.1	17	2.5	365
1.2	24	3.0	582
1.4	49	4.0	1,060
1.7	108	5.0	1,710
2.0	182		

June 19 to Sept. 30

0.8	8.0	1.7	113
1.0	16	2.0	188
1.2	31	2.5	365
1.4	56		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	46	45	41	34	716	415	58	35	24	14	17
2	33	163	35	39	35	467	365	52	70	23	33	17
3	26	108	97	40	39	371	281	45	36	20	34	17
4	21	126	58	43	52	317	148	51	32	18	35	14
5	20	90	48	44	42	219	119	48	28	17	16	19
6	22	96	45	44	37	244	115	48	25	21	19	14
7	23	52	39	43	36	236	104	42	25	22	15	14
8	26	46	38	45	34	123	101	42	21	309	14	15
9	123	95	36	43	35	104	90	41	20	144	13	14
10	28	97	42	41	35	115	86	41	20	28	35	15
11	26	96	51	41	34	108	76	39	63	20	23	14
12	22	66	52	38	35	106	132	54	49	20	18	10
13	23	45	48	37	34	123	90	42	52	20	16	13
14	23	48	45	36	34	528	86	39	34	20	101	14
15	24	36	45	36	36	1,550	274	39	26	19	29	14
16	23	34	90	35	38	806	118	33	22	18	20	12
17	23	39	59	36	54	628	104	33	22	18	17	13
18	21	36	49	33	104	467	101	51	74	16	20	13
19	22	36	46	33	744	281	101	38	136	18	18	35
20	51	90	42	35	816	329	86	32	169	21	18	16
21	25	61	41	35	484	361	84	27	65	19	19	12
22	22	52	42	36	337	305	80	27	42	20	17	13
23	26	49	39	35	321	258	76	27	38	32	42	19
24	38	45	38	34	309	191	63	43	35	23	37	20
25	28	38	38	34	365	129	63	200	34	16	45	12
26	26	45	39	34	745	132	56	78	31	31	19	34
27	110	38	41	34	990	188	152	51	27	22	22	27
28	291	65	39	34	821	285	112	38	28	18	15	50
29	137	41	39	34	------	537	72	35	26	17	14	18
30	45	38	39	34	------	458	58	33	26	16	19	16
31	106	------	39	34	------	440	------	33	------	15	17	------
TOTAL	1,510	1,875	1,442	1,159	6,679	11,071	3,805	1,460	1,311	1,045	774	531
MEAN	48.7	62.5	46.5	37.4	239	357	127	47.1	43.7	33.7	25.0	17.7
MAX	291	163	97	45	990	1,550	415	200	169	309	101	50
MIN	20	34	38	33	34	104	56	27	20	15	13	10
CFSM	.40	.51	.38	.30	1.94	2.90	1.03	.38	.36	.27	.20	.14
IN.	.46	.57	.44	.35	2.02	3.35	1.15	.44	.40	.32	.23	.16

CAL YR 1970 TOTAL 25,293 MEAN 69.3 MAX 1,430 MIN 12 CFSM .56 IN 7.65
WTR YR 1971 TOTAL 32,662 MEAN 89.5 MAX 1,550 MIN 10 CFSM .73 IN 9.88

PEAK DISCHARGE (BASE, 700 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
a10-28	--	3.73	927	a3-15	--	5.64	2,180
2-19	1420	3.75	936	a7- 8	--	3.83	976
2-27	1545	3.86	990				

a About.

04087204 Oak Creek at South Milwaukee, Wis.

LOCATION.--Lat 42°55'30", long 87°52'12", in NW 1/4 sec.2, T.5 N., R.22 E., Milwaukee County, on left bank 25 ft downstream from 15th Avenue bridge in South Milwaukee and 2 3/4 miles upstream from mouth.

DRAINAGE AREA.--25.0 sq mi.

PERIOD OF RECORD.--October 1963 to current year.

GAGE.--Water-stage recorder and crest-stage indicator. Altitude of gage is 630 ft (from topographic map).

AVERAGE DISCHARGE.--8 years, 17.8 cfs (9.67 inches per year).

EXTREMES.--Current year: Maximum discharge, 441 cfs Feb. 20 (gage height, 6.46 ft); minimum daily, 0.80 cfs Sept. 12.

Period of record: Maximum discharge, 704 cfs June 30, 1969 (gage height, 7.58 ft); minimum, 0.4 cfs Jan. 3, 1964 (gage height, 2.33 ft).

REMARKS.--Records fair except those for winter periods and periods of no gage-height record, which are poor. Low flows may occasionally be affected by activity of gravel pit upstream.

Rating table (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Jan. 13 to Feb. 20.)

2.3	0.6	3.5	67
2.4	1.6	4.0	105
2.5	4.2	5.0	207
2.7	14	6.0	358
3.0	32	7.0	550

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.3	16	11	11	3.5	50	66	8.2	6.2	1.4	2.1	1.9
2	4.0	40	10	11	3.4	30	41	8.2	16	1.4	7.4	1.9
3	3.8	20	16	11	3.5	23	31	8.2	7.4	1.4	6.6	1.6
4	3.4	19	11	10	3.7	18	26	7.0	3.7	1.4	3.4	1.3
5	3.2	17	11	9.4	3.8	20	23	7.0	2.6	1.3	2.4	1.4
6	3.0	16	11	8.0	3.8	19	21	6.2	2.6	1.3	2.1	1.0
7	3.2	16	10	6.4	3.6	20	20	5.4	2.6	1.3	2.1	1.0
8	3.6	16	10	5.8	3.5	17	18	5.4	1.9	80	1.9	1.2
9	4.0	15	10	5.8	3.4	16	16	5.0	1.9	66	1.9	1.1
10	3.5	34	17	5.8	3.4	15	14	4.2	1.9	6.2	14	1.1
11	3.2	14	20	5.8	3.5	16	13	4.6	1.9	6.2	14	1.1
12	3.0	13	17	5.8	3.6	18	30	4.2	2.4	4.2	5.8	.80
13	2.9	13	17	5.6	3.6	26	153	4.2	7.4	3.7	2.4	.90
14	2.7	12	17	5.4	3.7	197	60	3.4	5.4	3.6	12	.90
15	2.5	12	17	5.4	3.7	358	35	3.7	2.9	4.2	9.3	.90
16	2.3	12	17	5.2	3.9	131	29	3.4	1.9	3.7	3.7	.90
17	2.2	12	17	4.8	9.6	66	25	3.4	1.6	3.7	2.6	.90
18	2.1	11	19	4.7	46	50	22	3.4	5.0	3.7	1.9	1.0
19	1.9	11	18	4.7	323	28	19	7.4	7.4	18	1.6	10
20	1.8	31	17	6.3	401	25	15	3.4	29	7.8	1.6	9.0
21	1.8	15	17	4.4	226	35	13	3.2	17	4.2	1.5	3.0
22	1.8	13	16	4.5	160	60	11	2.9	5.4	3.2	2.6	1.5
23	2.8	12	15	4.4	110	70	10	2.9	3.7	4.2	6.2	1.3
24	2.4	11	14	4.3	90	52	9.3	4.6	3.2	3.9	5.8	1.2
25	2.2	10	14	4.2	200	45	8.2	4.2	3.9	5.0	3.7	5.0
26	2.0	10	13	4.1	450	66	7.8	4.2	3.2	5.0	2.9	3.0
27	15	11	12	4.0	210	113	13	2.9	2.4	3.9	1.9	3.4
28	40	12	11	3.9	100	185	18	2.6	1.6	3.2	1.5	3.0
29	15	12	11	3.8	------	145	12	2.4	1.5	2.4	1.2	2.0
30	13	12	10	3.7	------	78	9.9	2.1	1.5	2.4	1.5	1.7
31	20	------	10	3.6	------	70	------	1.9	------	2.4	1.5	------
TOTAL	176.5	467	436	179.8	2,363.5	2,063	788.2	139.8	155.1	260.1	129.1	65.00
MEAN	5.69	15.6	14.1	5.80	84.4	66.5	26.3	4.51	5.17	8.39	4.16	2.17
MAX	40	40	20	11	450	358	153	8.2	29	80	14	10
MIN	1.8	10	10	3.6	3.4	15	7.8	1.9	1.5	1.3	1.2	.80
CFSM	.23	.62	.56	.23	3.38	2.66	1.05	.18	.21	.34	.17	.09
IN.	.26	.69	.65	.27	3.52	3.07	1.17	.21	.23	.39	.19	.10

CAL YR 1970 TOTAL 5,470.10 MEAN 15.0 MAX 310 MIN 1.2 CFSM .60 IN 8.14
WTR YR 1971 TOTAL 7,223.10 MEAN 19.8 MAX 450 MIN .80 CFSM .79 IN 10.75

PEAK DISCHARGE (BASE, 250 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
2-20	0500	6.46	441	3-28	2000	5.34	252
3-15	0600	6.36	423				

NOTE.--No gage-height record Oct. 1 to Jan. 13, Feb. 2 to Mar. 9.

04087220 Root River near Franklin, Wis.

LOCATION.--Lat 42°52'25", long 87°59'45", in SE 1/4 sec.22, T.5 N., R.21 E., Milwaukee County, on right bank 400 ft upstream from State Highway 100, 2.1 miles upstream from Root River Canal, 2.4 miles southeast of Franklin, 5.5 miles southeast of Hales Corners, and about 24 miles upstream from mouth.

DRAINAGE AREA.--49.3 sq mi.

RECORDS AVAILABLE.--October 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is 674.5 ft above mean sea level.

AVERAGE DISCHARGE.--8 years, 36.3 cfs (10.00 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,020 cfs Mar. 15 (gage height, 7.24 ft); maximum gage height, 7.77 ft Feb. 20 (backwater from ice); minimum discharge, 0.38 cfs Aug. 10 (gage height, 1.45 ft).

Period of record: Maximum discharge, 2,650 cfs June 30, 1969 (gage height, 8.36 ft); maximum gage height, 8.43 ft Mar. 5, 1965, backwater from ice; minimum discharge, 0.38 cfs Aug. 10, 1971 (gage height, 1.45 ft).

Flood of Mar. 30, 1960, reached a stage of 9.57 ft (discharge, 5,130 cfs, from rating curve extended above 1,400 cfs on basis of contracted-opening measurement of peak-flow).

REMARKS.--Records good except those for winter periods, which are fair.

Rating table (gage height, in feet, and discharge, in cubic feet per second). (Stage-discharge relation affected by ice Nov. 23, 24, Dec. 6, 14, 15, Dec. 10 to Feb. 28.)

1.4	0.20	2.1	18	6.0	350
1.5	.50	2.4	38	6.5	498
1.6	1.0	3.0	84	7.0	760
1.7	1.8	5.0	212	7.5	1,300
1.9.	7.2	5.5	267		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	32	24	18	9.8	298	133	23	19	5.7	.60	1.3
2	15	23	19	18	9.8	215	87	21	30	7.3	6.0	1.6
3	14	47	22	18	10	151	58	20	19	7.3	8.2	2.0
4	13	67	25	17	12	104	50	21	13	7.2	2.0	1.6
5	13	41	21	15	12	88	45	22	9.9	7.2	1.2	4.5
6	13	30	20	14	12	80	40	20	7.1	7.4	1.5	3.4
7	12	25	16	13	12	70	39	18	20	7.4	1.2	1.7
8	12	22	16	13	12	54	38	17	14	80	.70	1.2
9	15	22	17	13	12	47	33	17	6.7	50	.44	1.2
10	20	41	18	12	12	41	30	17	6.1	12	.44	1.3
11	14	33	20	12	12	40	29	17	6.0	5.3	9.7	2.0
12	12	26	20	12	12	46	35	20	7.4	3.2	3.1	1.4
13	12	23	20	11	12	52	177	18	13	2.9	2.1	1.1
14	12	22	21	11	12	233	81	14	8.0	3.6	13	1.0
15	12	20	23	11	12	866	50	11	6.2	2.0	17	.95
16	12	19	19	11	12	296	41	9.4	6.7	1.9	3.1	.90
17	11	19	21	10	30	138	38	8.4	8.6	2.0	1.4	1.5
18	12	19	24	10	78	104	33	8.1	6.7	2.7	1.1	1.3
19	11	19	25	10	350	87	30	10	21	5.5	1.0	5.3
20	11	43	27	10	480	65	30	8.5	75	8.2	1.3	14
21	11	34	29	10	500	77	27	7.5	35	2.7	.85	3.4
22	12	24	25	10	430	114	25	7.9	16	1.6	2.1	2.0
23	14	21	20	10	330	102	25	8.0	13	2.2	13	1.7
24	17	18	23	11	270	75	23	7.5	12	2.3	6.1	1.7
25	16	16	25	11	310	63	22	21	13	2.0	10	2.4
26	12	17	23	11	350	76	22	17	13	6.3	3.4	6.1
27	12	17	19	11	700	133	28	11	10	5.3	2.3	12
28	81	20	18	11	500	208	41	11	9.4	1.8	1.8	8.2
29	80	23	17	10	------	276	30	8.5	10	1.2	1.5	2.9
30	26	24	18	10	------	168	25	8.5	4.5	.95	1.3	1.7
31	37	------	18	10	------	136	------	8.2	------	.75	1.1	------
TOTAL	580	807	653	374	4,513.6	4,503	1,365	436.5	439.3	255.90	118.53	91.35
MEAN	18.7	26.9	21.1	12.1	161	145	45.5	14.1	14.6	8.25	3.82	3.05
MAX	81	67	29	18	700	866	177	23	75	80	17	14
MIN	11	16	16	10	9.8	40	22	7.5	4.5	.75	.44	.90
CFSM	.38	.55	.43	.25	3.27	2.94	.92	.29	.30	.17	.08	.06
IN.	.44	.61	.49	.28	3.41	3.40	1.03	.33	.33	.19	.09	.07

CAL YR 1970 TOTAL 11,684.50 MEAN 32.0 MAX 768 MIN 3.2 CFSM .65 IN 8.82
WTR YR 1971 TOTAL 14,137.18 MEAN 38.7 MAX 866 MIN .44 CFSM .79 IN 10.67

PEAK DISCHARGE (BASE, 350 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
2-20	--	--	a520	3-15	0500	7.24	1,020
2-27	--	--	a820				

a About.

04087233 Root River Canal near Franklin, Wis.

LOCATION.--Lat 42°48'55", long 87°59'40", in SE 1/4 sec.10, T.4 N., R.21 E., Racine County, on right bank 10 ft downstream from highway bridge 3.5 miles upstream from mouth, 5.5 miles southeast of intersection U.S. 45 and State 100 in Franklin, and 8.7 miles southeast of Hales Corners.

DRAINAGE AREA.--57.2 sq mi.

PERIOD OF RECORD.--October 1963 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 670 ft (from topographic map).

AVERAGE DISCHARGE.--8 years, 35.8 cfs (8.50 inches per year).

EXTREMES.--Current year: Maximum discharge, 760 cfs Feb. 28 (gage height, 9.85 ft, backwater from ice); maximum gage height, 9.95 ft Feb. 22 (backwater from ice); minimum discharge, 0.60 cfs Sept. 24 (gage height, 2.04 ft).

Period of record: Maximum discharge, 774 cfs Feb. 11, 1966 (gage height, 9.27 ft); minimum daily, 0.40 cfs Dec. 19, 1963, result of freezeup.

REMARKS.--Records fair.

Rating table (gage height, in feet, and discharge, in cubic feet per second). (Shifting-control method used Feb. 26 to Mar. 10, Sept. 28-30; stage-discharge relation affected by ice Nov. 24, Dec. 7-9, Dec. 15 to Mar. 1.)

1.9	0.30	2.5	9.9	5.0	90
2.0	0.80	3.0	21	6.0	154
2.1	2.0	3.5	24	8.0	360
2.3	5.5	4.0	49	10.0	1,140

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	80	53	22	10	520	255	21	6.1	2.8	1.9	1.4
2	39	58	47	21	10	423	168	20	16	2.5	2.2	1.5
3	34	140	75	20	10	243	113	20	14	1.9	2.5	1.6
4	30	195	94	19	11	176	85	19	9.0	1.5	2.8	1.6
5	27	159	62	18	12	151	72	19	7.2	1.6	2.7	1.6
6	26	99	46	16	12	128	65	18	6.3	1.4	2.3	1.5
7	25	69	35	15	11	100	60	17	7.2	1.3	2.3	1.4
8	24	54	32	15	11	94	56	16	5.9	20	1.9	1.3
9	28	50	30	14	11	86	50	15	4.8	27	2.0	1.5
10	48	110	29	14	11	58	44	14	4.4	12	2.2	1.2
11	43	127	33	13	12	60	41	14	4.2	7.0	2.7	1.0
12	35	86	32	13	11	58	44	15	4.4	5.0	3.2	1.0
13	27	63	31	12	11	72	122	14	4.2	4.1	2.7	.92
14	26	51	30	12	11	233	89	13	12	3.2	3.7	.75
15	24	45	29	11	11	605	64	12	9.8	2.5	4.8	.75
16	23	39	29	11	11	519	53	12	6.1	2.3	3.5	.75
17	22	36	29	11	12	301	48	11	4.6	3.9	2.2	.80
18	27	34	30	10	28	182	42	10	4.4	2.7	1.9	.80
19	23	31	31	10	260	122	37	10	14	2.5	1.8	1.4
20	22	58	34	9.8	530	144	35	9.2	12	2.5	1.6	2.3
21	22	65	31	9.8	550	120	32	8.5	7.9	2.2	1.4	1.6
22	23	51	29	9.8	560	144	28	8.1	5.5	1.9	1.6	.80
23	27	37	28	10	480	137	26	8.1	4.8	1.9	1.6	.75
24	42	34	26	11	430	112	25	9.0	4.6	2.2	1.5	.65
25	38	29	24	11	380	96	24	10	4.1	2.2	2.7	.65
26	25	28	23	11	480	92	23	9.0	4.2	2.3	4.6	.75
27	50	28	22	11	720	141	24	7.4	3.7	2.0	2.8	.80
28	160	36	22	11	700	267	27	6.8	3.0	2.2	1.9	.80
29	190	50	22	11	------	399	26	6.6	2.3	2.0	1.5	3.2
30	68	53	22	10	------	336	22	6.1	2.5	1.9	1.3	3.2
31	96	------	22	10	------	272	------	5.7	------	1.9	1.2	------
TOTAL	1,335	1,995	1,082	402.4	5,306	6,386	1,798	384.5	199.2	130.4	72.8	38.37
MEAN	43.1	66.5	34.9	13.0	190	206	59.9	12.4	6.64	4.21	2.35	1.28
MAX	190	195	94	22	720	605	255	21	16	27	4.8	3.2
MIN	22	28	22	9.8	10	58	22	5.7	2.3	1.3	1.2	.65
CFSM	.75	1.16	.61	.23	3.32	3.60	1.05	.22	.12	.07	.04	.02
IN.	.87	1.30	.70	.26	3.45	4.15	1.17	.25	.13	.08	.05	.02

CAL YR 1970 TOTAL 15,871.50 MEAN 43.5 MAX 676 MIN 1.8 CFSM .76 IN 10.32
WTR YR 1971 TOTAL 19,129.67 MEAN 52.4 MAX 720 MIN .65 CFSM .92 IN 12.44

PEAK DISCHARGE (BASE, 300 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
2-22	--	--	a580	3-15	1100	8.72	632
2-28	--	--	a780	3-29	0500	8.09	402

a About.

NOTE.--No gage-height record Oct. 3 to Nov. 4.

04087240 Root River at Racine, Wis.

LOCATION.--Lat 42°45'05", long 87°49'25", in NE 1/4 sec.6, T.3 N., R.23 E., Racine County, on left bank 30 ft downstream from State Highway 38 bridge in Racine, 350 ft downstream from Horlick Dam, and 5.2 miles upstream from mouth.

DRAINAGE AREA.--187 sq mi.

PERIOD OF RECORD.--August 1963 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 610 ft (from topographic map). Prior to Feb. 5, 1964, nonrecording gage on bridge 30 ft upstream.

AVERAGE DISCHARGE.--8 years, 130 cfs (9.44 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,560 cfs Mar. 1 (gage height, 5.50 ft); maximum gage height, 7.70 ft Feb. 20 (backwater from ice); minimum daily, 2.5 cfs Sept. 7.

Period of record: Maximum discharge, 2,500 cfs Feb. 12, 1966 (gage height, 8.13 ft); minimum daily, 1.3 cfs Oct. 12, Dec. 31, 1963, Jan. 1, 2, 1964.

REMARKS.--Records good except those for winter periods, which are fair.

Rating table (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Jan. 4 to Feb. 27, Mar. 8, 9).

1.9	0.60	2.5	41	4.0	575
2.0	3.0	2.7	74	5.0	1,210
2.1	6.8	3.0	146	6.0	1,950
2.3	20	3.5	325		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	78	261	158	89	29	1,460	648	80	24	19	4.5	3.4
2	72	227	146	89	28	1,290	536	76	41	14	4.9	3.0
3	68	253	167	89	29	1,050	400	70	65	13	4.5	3.4
4	64	375	253	84	29	744	285	69	53	14	6.4	2.9
5	58	405	227	66	32	536	231	69	38	14	10	3.0
6	54	334	186	54	34	435	202	69	32	14	6.4	2.8
7	49	234	143	50	34	375	183	65	26	15	5.3	2.5
8	52	183	112	50	33	280	170	63	29	33	4.1	3.4
9	60	155	102	52	32	240	161	61	35	119	3.8	3.8
10	68	206	84	54	32	213	138	60	24	89	5.3	3.0
11	62	305	80	52	32	186	127	61	23	38	4.5	2.9
12	48	277	90	52	34	176	124	65	22	24	3.8	2.9
13	43	206	100	50	33	186	325	69	20	19	6.8	2.9
14	42	167	120	46	32	410	395	65	21	14	9.6	2.8
15	39	141	110	40	32	992	297	65	24	11	7.9	3.4
16	39	124	100	37	32	1,360	209	60	27	10	23	3.4
17	40	114	100	36	60	1,100	173	54	22	11	13	3.0
18	36	107	110	36	170	702	152	48	22	11	9.6	3.4
19	35	100	120	35	820	460	132	44	24	10	6.8	3.8
20	38	146	140	34	1,300	305	119	41	36	10	5.3	4.1
21	38	223	130	35	1,300	325	114	38	95	12	3.0	11
22	39	196	130	36	1,400	366	102	32	60	12	3.0	12
23	39	150	120	36	1,300	395	93	32	33	9.0	2.5	7.9
24	42	150	140	35	1,200	361	89	33	25	7.4	3.0	5.7
25	46	112	150	33	1,100	305	80	35	25	6.8	12	5.3
26	52	93	130	30	980	289	76	40	24	7.4	7.4	5.7
27	47	89	110	30	1,300	366	74	42	24	6.4	7.9	6.8
28	72	100	100	29	1,360	542	89	33	18	9.6	6.8	8.5
29	285	119	90	29	------	756	102	29	15	8.5	5.3	21
30	297	149	90	31	------	842	89	26	23	6.4	4.5	12
31	216	------	91	30	------	762	------	23	------	5.3	3.8	------
TOTAL	2,218	5,701	3,929	1,449	12,797	17,809	5,915	1,617	950	592.8	204.7	159.3
MEAN	71.5	190	127	46.7	457	574	197	52.2	31.7	19.1	6.60	5.31
MAX	297	405	253	89	1,400	1,460	648	80	95	119	23	21
MIN	35	89	80	29	28	176	74	23	15	5.3	2.5	2.5
CFSM	.38	1.02	.68	.25	2.44	3.07	1.05	.28	.17	.10	.04	.03
IN.	.44	1.13	.78	.29	2.55	3.54	1.18	.32	.19	.12	.04	.03

CAL YR 1970 TOTAL 52,182.0 MEAN 143 MAX 1,240 MIN 9.0 CFSM .76 IN 10.38
WTR YR 1971 TOTAL 53,341.8 MEAN 146 MAX 1,460 MIN 2.5 CFSM .78 IN 10.61

PEAK DISCHARGE (BASE, 500 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
3- 1	0330	5.50	1,560	3-30	1200	4.48	862
3-16	2300	5.30	1,420				

05333500 St. Croix River near Danbury, Wis.

LOCATION.--Lat 46°04'28", long 92°14'50", in SW 1/4 sec.33, T.42 N., R.15 W., Burnett County, on left bank at downstream side of bridge on State Highway 35, 3.5 miles downstream from Namekagon River, 10 miles northeast of Danbury, and at mile 129.2.

DRAINAGE AREA.--1,588 sq mi.

PERIOD OF RECORD.--March 1914 to current year. Prior to October 1933, published as "at Swiss".

GAGE.--Water-stage recorder. Datum of gage is 882.21 ft above mean sea level. Prior to Apr. 23, 1937, nonrecording gage 40 ft downstream at same datum. Apr. 23, 1937, to Jan. 5, 1939, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--57 years, 1,290 cfs (11.03 inches per year).

EXTREMES.--Current year: Maximum discharge, 5,750 cfs Apr. 13 (gage height, 5.23 ft); maximum gage height, 6.60 ft Dec. 4 (backwater from ice); minimum discharge, 565 cfs Oct. 4 (gage height, 0.27 ft).
Period of record: Maximum discharge, 10,200 cfs May 6, 1950 (gage height, 8.22 ft); minimum observed, 393 cfs Aug. 6, 13, 1934 (gage height, -0.20 ft, site then in use).

REMARKS.--Records good except those for winter period, which are fair.

REVISIONS (WATER YEARS).--WSP 1208: Drainage area. WSP 1438: 1915 (M), 1919-20, 1923-24 (M), 1927 (M), 1931 (M), 1934, 1935-37 (M). WSP 1628: 1918.

Rating table (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 13, 15, Nov. 19 to Apr. 4).

0.3	580	1.0	1,060
.5	700	2.0	1,940
.6	760	3.0	3,010
.8	900	4.0	4,130
		5.5	6,120

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	805	1,790	1,500	1,100	960	980	1,400	2,110	1,580	1,080	864	921
2	762	1,790	1,400	1,100	960	960	1,300	2,050	1,530	1,020	817	916
3	739	1,800	1,500	1,100	960	960	1,300	1,970	1,400	962	869	881
4	707	1,810	1,400	1,100	960	960	1,400	1,870	1,310	918	850	906
5	719	1,620	1,400	1,000	940	960	1,500	1,870	1,530	998	814	925
6	745	1,550	1,300	1,000	940	960	1,600	1,850	1,500	917	797	911
7	822	1,580	1,200	1,000	940	960	1,900	1,810	1,250	903	811	884
8	1,250	1,530	1,200	1,000	940	940	2,400	1,740	1,260	934	770	860
9	1,770	1,800	1,100	1,000	940	940	3,060	1,660	1,240	879	778	845
10	2,130	2,150	1,100	1,000	920	1,000	3,910	1,550	1,260	865	741	1,000
11	2,040	2,360	1,100	1,000	920	1,200	4,820	1,500	1,290	853	759	1,040
12	1,930	2,520	1,100	1,000	920	1,200	5,390	1,420	1,400	839	762	1,030
13	1,720	2,440	1,100	1,000	920	1,200	5,710	1,350	1,410	899	830	939
14	1,670	2,510	1,000	1,000	900	1,200	5,530	1,320	1,350	843	912	914
15	1,500	2,460	1,000	1,000	900	1,300	5,230	1,250	1,230	874	847	863
16	1,420	2,140	1,000	1,000	900	1,300	4,830	1,260	1,170	877	816	836
17	1,350	1,910	1,000	1,000	900	1,200	4,540	1,170	1,170	819	791	831
18	1,160	1,840	980	1,000	900	1,200	3,840	1,140	1,180	942	1,200	804
19	1,160	1,790	960	1,000	900	1,200	3,420	1,290	1,150	1,110	1,420	849
20	1,210	1,760	960	1,000	900	1,200	3,400	1,900	1,170	1,030	1,520	812
21	1,080	1,720	960	980	900	1,200	3,190	2,120	1,090	931	1,300	813
22	1,110	1,670	960	980	900	1,200	2,750	1,980	1,030	1,240	1,220	798
23	1,070	1,510	980	980	900	1,200	2,410	1,860	1,040	1,380	1,110	888
24	1,030	1,320	980	980	920	1,200	2,230	2,060	982	1,250	1,110	908
25	1,170	1,220	1,000	980	960	1,200	2,120	2,210	1,090	1,120	952	875
26	1,150	1,300	1,000	980	1,000	1,200	1,970	2,240	1,020	981	966	885
27	1,330	1,300	1,000	980	1,000	1,100	1,990	2,040	978	1,010	932	897
28	1,630	1,400	1,100	960	980	1,100	2,110	1,870	925	1,020	907	920
29	1,690	1,400	1,100	960	------	1,200	2,210	1,870	968	987	858	959
30	1,690	1,400	1,100	960	------	1,300	2,170	1,760	1,000	982	861	1,030
31	1,730	------	1,100	960	------	1,400	------	1,700	------	929	908	------
TOTAL	40,289	53,390	34,580	31,100	26,080	35,120	89,630	53,790	36,483	30,392	29,092	26,940
MEAN	1,300	1,780	1,115	1,003	931	1,133	2,988	1,735	1,216	980	938	898
MAX	2,130	2,520	1,500	1,100	1,000	1,400	5,710	2,240	1,580	1,380	1,520	1,040
MIN	707	1,220	960	960	900	940	1,300	1,140	925	819	741	798
CFSM	.82	1.12	.70	.63	.59	.71	1.88	1.09	.77	.62	.59	.57
IN.	.94	1.25	.81	.73	.61	.82	2.10	1.26	.85	.71	.68	.63

CAL YR 1970 TOTAL 446,752 MEAN 1,224 MAX 3,080 MIN 616 CFSM .77 IN 10.47
WTR YR 1971 TOTAL 486,886 MEAN 1,334 MAX 5,710 MIN 707 CFSM .84 IN 11.41

PEAK DISCHARGE (BASE, 3,000 CFS).--Apr. 13 (0600) 5,750 cfs (5.23 ft).

05334000 Shell Lake at Shell Lake, Wis.

LOCATION.--Lat 45°44'46", long 91°55'00", in NE 1/4 sec.25, T.38 N., R.13 W., Washburn County, 500 ft east of Peterson Boat Factory in the village of Shell Lake.

DRAINAGE AREA.--34.0 sq mi, approximately. Area of Shell Lake, 3,200 acres.

PERIOD OF RECORD.--August 1936 to current year (fragmentary).

GAGE.--Nonrecording gage. Datum of gage is 1,215.88 ft above mean sea level. Prior to Apr. 21, 1961, 2.3 miles southeast of village of Shell Lake at same datum.

EXTREMES.--Current year: Maximum gage height observed, 3.30 ft Apr. 29; minimum observed, 1.83 ft Oct. 6.
Period of record: Maximum gage height observed, 5.13 ft July 17, 1954; minimum observed, -0.92 ft Nov. 28, 1949.

REMARKS.--Lake has no surface outlet. Lake ice covered from Nov. 28 to Apr. 16.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								3.26				
2												
3										3.04		2.60
4												
5									3.24			
6	1.83										2.78	
7		2.15										
8								3.20				
9												
10	2.05											2.58
11												
12									3.20			
13												
14		2.33										
15				2.39				3.16				
16		2.31										
17	1.99											
18					2.54							2.44
19									3.16			
20										2.94		
21		2.33									2.76	
22								3.18				
23						2.70						
24	1.93									2.84		
25												2.34
26									3.24			
27											2.62	
28												
29					------		3.30	3.27				
30					------				3.10			
31	2.09	------			------		------		------	2.98		------

05335010 Loon Creek near Danbury, Wis.

LOCATION.--Lat 45°59'18", long 92°12'38", in SW 1/4 sec.35, T.41 N., R.15 W., Burnett County, on right bank 75 ft southwest of logging road, 1.8 miles upstream from Eagle Lake, and 7.7 miles east of Danbury.

DRAINAGE AREA.--16.9 sq mi, approximately (includes some noncontributing area).

PERIOD OF RECORD.--June 1970 to June 1971 (discontinued).

GAGE.--Water-stage recorder. Altitude of gage is 960 ft (from topographic map).

EXTREMES.--June 1970 to June 1971: Maximum discharge during period, 19 cfs Oct. 9, 1970 (gage height, 4.42 ft); minimum daily, 4.4 cfs Mar. 26, 1971.

REMARKS.--Records fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									7.6	6.8	6.5	5.6
2									7.4	5.9	5.9	7.0
3									7.3	5.2	5.4	8.4
4									7.3	5.4	5.6	7.3
5									7.3	5.4	5.4	7.0
6									7.6	5.4	5.2	7.0
7									7.6	5.4	6.2	6.5
8									7.0	8.6	13	5.6
9									6.8	7.3	9.1	5.9
10									6.8	6.2	7.9	7.9
11									5.9	5.9	7.3	7.0
12									6.2	5.4	6.5	6.2
13									9.4	6.2	6.2	5.9
14									7.9	7.3	5.6	6.5
15									7.9	6.2	8.4	10
16									13	5.6	7.9	8.6
17									12	5.2	7.3	8.6
18									9.6	5.2	7.0	8.1
19									8.9	5.6	7.0	7.6
20									8.1	5.6	6.5	7.6
21									7.6	5.2	6.5	7.6
22									6.5	5.4	7.0	6.5
23									5.9	5.4	7.0	6.0
24									5.6	5.4	6.8	7.9
25									6.5	5.4	6.5	8.4
26									9.6	5.2	6.5	8.6
27									8.6	6.2	5.9	7.3
28									7.6	6.2	5.6	6.2
29					------				7.3	7.6	5.6	5.9
30					------				7.0	7.9	5.6	5.6
31		------			------		------		------	7.3	5.2	------
TOTAL									233.8	187.0	208.1	214.3
MEAN									7.79	6.03	6.71	7.14
MAX									13	8.6	13	10
MIN									5.6	5.2	5.2	5.6
CFSM									.46	.36	.40	.42
IN.									.51	.41	.46	.47

05335010 Loon Creek near Danbury, Wis.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	13					9.9	11	7.0			
2	5.6	12					8.6	10	6.5			
3	5.6	12					7.9	9.4	6.2			
4	5.6	12					8.6	9.4	5.4			
5	5.4	10					8.6	8.9	6.2			
6	5.9						9.6	8.4	4.9			
7	9.1						12	9.1	5.2			
8	18						13	7.6	5.2			
9	19						14	7.0	4.9			
10	17						14	6.8	7.3			
11	15						14	7.0	12			
12	14						13	6.5	9.4			
13	12						13	5.9	8.1			
14	11						13	5.9	7.3			
15	9.6						13	5.6	6.2			
16	8.9						13	5.4	7.9			
17	8.9						13	5.6	7.0			
18	8.6						13	5.4	6.8			
19	8.1						13	10	6.8			
20	8.1						13	12	7.6			
21	7.9						12	9.4	5.6			
22	7.6						12	8.6	5.4			
23	7.9						11	8.6	5.6			
24	9.9					8.1	11	13	9.9			
25	9.6					5.9	9.9	12	9.4			
26	11					4.4	9.4	12	8.1			
27	15					4.9	11	10	6.8			
28	14					5.9	13	9.4	6.2			
29	12				------	5.9	12	7.9	7.9			
30	12				------	7.3	12	8.1	9.9			
31	13	------			------	9.4	------	7.9	------			------
TOTAL	320.9						350.5	263.8	212.7			
MEAN	10.4						11.7	8.51	7.09			
MAX	19						14	13	12			
MIN	5.4						7.9	5.4	4.9			
CFSM	.62						.69	.50	.42			
IN.	.71						.77	.58	.47			

05338500 Snake River near Pine City, Minn.

LOCATION.--Lat 45°50'30", long 92°56'00", in SE 1/4 NW 1/4 sec.26, T.39 N., R.21 W., Pine County, on left bank at site of former powerplant and dam, 0.5 miles downstream from Cross Lake and 1.5 miles northeast of Pine City.

DRAINAGE AREA.--958 sq mi.

RECORDS AVAILABLE.--June 1913 to September 1917, July 1951 to current year.

GAGE.--Water-stage recorder. Datum of gage is 919.00 ft above mean sea level datum of 1929. June 25, 1913, to Sept. 30, 1917, nonrecording gage at site 500 ft downstream at different datum. July 1 to Oct. 28, 1951, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--24 years, 569 cfs (8.07 inches per year).

EXTREMES.--Current year: Maximum discharge, 6,560 cfs Apr. 16 (gage height, 7.56 ft); minimum, 44 cfs Oct. 4 (gage height, 2.79 ft).

Period of record: Maximum discharge, 11,500 cfs Apr. 18, 1965 (gage height, 9.56 ft); minimum, 5.5 cfs Oct. 1, 1964 (gage height, 2.57 ft); result of dam rehabilitation 0.5 mile upstream.

A discharge measurement of 12,500 cfs was made May 9, 1950.

REMARKS.--Records good except those for winter periods, which are fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77	311	350	118	128	130	578	1,540	1,910	253	120	134
2	89	335	350	113	129	130	936	1,590	1,580	289	108	139
3	75	387	350	111	128	129	1,180	1,610	1,300	324	100	129
4	48	447	350	108	132	129	1,320	1,570	1,090	350	93	134
5	49	458	350	105	137	126	1,450	1,430	905	342	93	129
6	58	453	335	102	135	125	1,550	1,300	756	310	93	139
7	67	439	315	99	132	129	1,700	1,180	665	292	93	112
8	155	418	300	96	131	129	2,380	1,030	589	297	93	104
9	287	495	293	94	129	128	3,340	907	522	255	97	89
10	342	566	272	92	122	127	4,270	801	503	230	97	125
11	328	725	257	90	119	127	4,620	699	524	209	81	104
12	358	955	240	89	118	127	4,990	622	528	209	81	104
13	357	1,160	229	88	116	124	5,540	544	550	227	64	93
14	339	1,350	214	88	119	129	6,050	480	555	188	64	93
15	304	1,410	200	88	119	138	6,420	460	527	188	66	85
16	278	1,370	190	90	116	149	6,510	399	527	164	71	64
17	266	1,270	180	92	117	169	6,190	377	470	151	66	64
18	246	1,190	178	92	121	190	5,660	350	425	173	85	61
19	225	1,060	170	92	125	205	5,060	439	389	212	120	57
20	209	980	161	95	128	220	4,400	561	386	209	108	57
21	193	760	155	96	128	230	3,700	775	346	227	104	61
22	190	600	154	97	128	245	3,230	1,100	312	248	97	57
23	183	510	148	99	125	255	2,790	1,360	285	245	71	74
24	190	475	144	102	123	265	2,390	1,710	253	227	89	66
25	178	450	140	103	118	270	2,070	1,920	230	224	74	61
26	200	420	138	104	121	278	1,760	2,170	212	182	64	61
27	239	400	130	108	123	281	1,530	2,470	215	158	64	74
28	246	380	128	114	129	289	1,450	2,660	206	178	66	97
29	239	360	127	122	------	304	1,380	2,630	211	138	66	82
30	259	350	125	122	------	315	1,440	2,430	258	134	74	104
31	296	------	120	125	------	378	------	2,170	------	126	112	------
TOTAL	6,570	20,484	6,793	3,134	3,496	5,970	95,884	39,284	17,229	6,959	2,674	2,753
MEAN	212	683	219	101	125	193	3,196	1,267	574	224	86.3	91.8
MAX	358	1,410	350	125	137	378	6,510	2,660	1,910	350	120	139
MIN	48	311	120	88	116	124	578	350	206	126	64	57
CFSM	.22	.71	.23	.11	.13	.20	3.34	1.32	.60	.23	.09	.10
IN.	.26	.80	.26	.12	.14	.23	3.72	1.53	.67	.27	.10	.11

CAL YR 1970 TOTAL 163,605 MEAN 448 MAX 4,140 MIN 44 CFSM .47 IN 6.35
WTR YR 1971 TOTAL 211,230 MEAN 579 MAX 6,510 MIN 48 CFSM .60 IN 8.20

05340500 St. Croix River at St. Croix Falls, Wis.

LOCATION.--Lat 45°24'25", long 92°38'49", in NW 1/4 sec.30, T.34 N., R.18 W., Polk County, on left bank, 1,800 ft downstream from powerplant of Northern States Power Co., in St. Croix Falls, and at mile 52.2.

DRAINAGE AREA.--5,930 sq mi, approximately.

PERIOD OF RECORD.--January 1902 to current year. Prior to January 1910, monthly discharge only, published in WSP 1308. Prior to October 1939, published as "near St. Croix Falls."

GAGE.--Water-stage recorder. Datum of gage is 690.47 ft above mean sea level, adjustment of 1912. Prior to July 1905, gage heights and discharge measurements were used by Loweth and Wolff, consulting engineers of St. Paul, Minn., to determine the flow. July 1905 to February 1940, records were computed from power generation at the St. Croix Falls powerplant.

AVERAGE DISCHARGE.--69 years, 4,098 cfs (9.38 inches per year).

EXTREMES.--Current year: Maximum discharge, 34,400 cfs Apr. 14 (gage height, 16.00 ft); minimum daily, 1,620 cfs Oct. 6.

Period of record: Maximum discharge, 54,900 cfs May 8, 1950 (gage height, 25.19 ft); minimum daily, 75 cfs July 17, 1910.

REMARKS.--Records are good. Diurnal fluctuation caused by St. Croix Falls powerplant 1,800 ft upstream

REVISIONS (WATER YEARS).--WSP 1115: 1929.

Rating table (gage height, in feet, and discharge, in cubic feet per second).

1.8	1,080	6.0	11,900
2.4	2,270	8.0	16,400
3.0	3,800	13.0	27,600
4.0	6,950	16.0	34,400

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,970	4,790	4,670	2,650	2,580	2,720	8,270	9,460	8,360	2,540	2,030	2,470
2	1,860	5,400	5,150	2,700	1,800	2,520	7,840	9,070	7,740	2,990	2,050	2,430
3	1,790	5,930	4,790	2,450	2,180	2,630	7,760	8,720	7,240	2,470	2,050	2,390
4	1,790	5,900	4,640	2,790	2,250	2,730	8,440	8,340	6,160	2,500	1,760	1,770
5	1,900	5,960	4,670	2,540	2,600	2,660	8,090	7,880	5,990	2,650	1,780	2,350
6	1,620	5,030	3,740	2,400	2,360	2,700	8,950	7,520	4,820	2,820	1,990	2,380
7	1,760	4,970	3,770	2,400	2,290	2,590	9,530	7,370	6,070	2,420	1,900	2,960
8	2,360	4,910	3,770	2,510	2,050	2,580	13,200	6,350	5,080	2,870	1,760	1,760
9	4,040	5,990	3,740	2,200	2,200	2,660	16,000	6,180	4,780	2,280	1,760	1,770
10	5,060	7,070	3,540	2,180	2,180	2,490	22,800	6,150	4,620	1,890	1,820	2,170
11	4,940	8,200	3,890	2,600	2,470	2,520	25,300	5,300	4,490	2,340	1,760	2,310
12	5,660	10,600	3,240	2,420	2,270	2,530	28,700	5,160	4,480	2,510	1,740	2,440
13	4,880	11,600	3,150	2,400	2,220	2,600	32,300	4,780	4,680	1,880	1,920	2,570
14	4,730	11,800	3,450	2,450	2,450	2,940	34,100	4,130	4,950	2,230	2,050	2,290
15	4,430	11,300	2,790	2,420	2,230	3,270	33,100	4,180	4,750	2,220	1,900	2,310
16	4,370	10,300	3,040	2,490	2,280	3,500	30,500	4,050	4,050	2,670	2,010	2,200
17	3,830	9,240	3,120	2,140	2,270	3,510	27,500	3,920	3,850	1,730	1,970	1,980
18	3,860	8,320	3,370	2,450	2,140	3,730	24,800	3,580	3,510	1,990	2,030	1,950
19	3,600	7,870	3,180	2,450	2,290	3,670	22,300	4,910	3,060	2,790	2,450	1,980
20	3,290	7,430	2,630	2,230	2,450	3,920	19,800	4,520	3,530	2,990	3,310	1,870
21	2,940	7,350	2,890	2,270	2,070	4,030	17,500	6,740	3,560	2,540	3,290	1,890
22	3,230	6,230	2,510	2,380	2,490	3,650	15,600	8,870	3,160	2,490	3,450	1,850
23	3,070	4,220	2,400	2,050	2,220	3,920	13,000	9,450	3,040	3,100	2,820	1,930
24	2,490	3,010	2,470	2,160	2,240	3,840	12,100	9,720	3,110	2,820	3,150	1,870
25	3,310	2,890	2,400	2,400	2,410	3,870	11,500	11,600	2,800	2,840	2,740	2,110
26	2,990	3,450	2,720	2,200	2,790	3,740	9,020	13,100	2,400	2,650	2,900	2,070
27	4,010	3,340	2,540	2,310	2,250	3,680	7,360	13,200	2,670	2,650	2,460	1,870
28	4,340	3,680	2,540	1,970	2,470	3,710	8,280	12,600	2,430	2,700	2,220	2,230
29	4,520	3,890	2,490	2,560	------	4,310	8,950	11,300	2,450	2,180	1,890	2,130
30	5,000	4,370	2,620	2,290	------	5,460	9,550	10,200	3,130	2,630	2,400	2,980
31	4,970	------	2,840	2,250	------	6,460	------	9,270	------	2,230	2,050	------
TOTAL	108,190	196,080	103,000	73,710	64,490	105,200	503,040	237,520	130,950	77,610	69,410	65,180
MEAN	3,490	6,536	3,322	2,378	2,303	3,394	16,770	7,662	4,365	2,504	2,239	2,173
MAX	5,660	11,800	5,150	2,790	2,790	6,460	34,100	13,200	8,360	3,100	3,450	2,980
MIN	1,620	2,890	2,400	1,970	1,800	2,490	7,360	3,580	2,400	1,730	1,740	1,760
CFSM	.59	1.10	.56	.40	.39	.57	2.83	1.29	.74	.42	.38	.37
IN.	.68	1.23	.65	.46	.40	.66	3.16	1.49	.82	.49	.44	.41

CAL YR 1970 TOTAL 1,456,520 MEAN 3,990 MAX 13,400 MIN 1,240 CFSM .67 IN 9.14
WTR YR 1971 TOTAL 1,734,380 MEAN 4,752 MAX 34,100 MIN 1,620 CFSM .80 IN 10.88

05344500 Mississippi River at Prescott, Wis.

LOCATION.--Lat 44°44'45", long 92°48'00", in sec.9, T.26 N., R.20 W., Pierce County, on left bank at Prescott, 200 ft downstream from St. Croix River, 300 ft south of Chicago, Burlington & Quincy Railroad bridge, 800 ft south of bridge on U.S. Highway 10, and at mile 811.4 upstream from Ohio River.

DRAINAGE AREA.--44,800 sq mi, approximately.

PERIOD OF RECORD.--June 1928 to current year.

GAGE.--Water-stage recorder. Datum of gage is 600.00 ft above mean sea level, adjustment of 1912 (levels by Corps of Engineers). Prior to Aug. 2, 1932, nonrecording gage at railroad bridge 300 ft upstream at following datums: June 3, 1928, to Sept. 30, 1929, 69.27 ft higher; Oct. 1, 1929, to Sept. 30, 1930, 67.68 ft higher; Oct. 1, 1930, to Aug. 1, 1932, 69.28 ft higher. Aug. 2, 1932, to Oct. 30, 1938, water-stage recorder at present site at datum 69.28 ft higher. Auxiliary water-stage recorder 10.7 miles downstream from base gage.

AVERAGE DISCHARGE.--43 years, 15,700 cfs (4.76 inches per year).

EXTREMES.--Current year: Maximum discharge, 83,000 cfs Apr. 16 (gage height, 84.18 ft); minimum daily, 3,450 cfs Oct. 3; minimum gage height, 74.34 ft July 27.
Period of record: Maximum discharge 228,000 cfs Apr. 18, 1965 (gage height, 93.11 ft); minimum daily, 1,380 cfs July 13, 1940; minimum gage height, 65.08 ft Aug. 29, 1934, present datum.

REMARKS.--Records good except for winter periods, which are fair. Some regulation by reservoirs, navigation dams, and powerplants at low and medium stages. Flood flow not materially affected by artificial storage.

REVISIONS (WATER YEARS).--WSP 1508: 1941.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5,010	14,700	23,100	13,100	8,200	11,000	47,800	40,900	32,700	20,700	11,200	9,380
2	4,150	14,300	23,600	11,100	8,400	13,300	49,600	40,900	32,300	20,800	10,400	9,440
3	3,450	15,000	22,700	11,300	7,900	12,200	51,500	40,600	31,200	21,400	9,780	8,710
4	5,210	15,600	20,400	10,900	8,400	11,900	52,100	39,300	29,800	22,300	8,830	8,400
5	4,800	16,700	17,600	11,200	9,000	11,400	53,700	38,800	29,600	22,700	8,410	8,230
6	5,670	17,800	14,500	10,800	8,500	11,200	54,700	37,600	29,400	22,700	8,270	6,880
7	4,790	17,400	11,000	9,500	8,500	9,900	55,500	36,300	28,800	23,200	7,830	7,060
8	7,520	16,600	13,700	9,500	8,100	9,700	58,200	35,000	28,400	26,200	7,520	7,300
9	10,300	17,900	15,500	9,600	8,000	10,100	61,600	33,100	27,300	25,400	7,050	8,760
10	12,800	21,700	15,500	9,600	8,200	11,000	64,300	31,300	26,700	24,600	6,750	9,430
11	11,700	25,200	15,200	9,800	8,300	8,900	70,200	30,000	27,000	24,100	6,870	7,810
12	13,200	28,500	16,900	10,200	8,600	11,500	74,600	27,800	27,400	23,700	6,740	6,690
13	14,400	31,300	14,600	9,900	8,200	11,800	77,200	26,200	28,100	23,500	7,040	7,210
14	15,200	33,600	14,400	9,900	8,200	15,200	80,000	24,800	29,000	22,800	6,090	7,250
15	15,300	34,100	14,600	9,800	8,300	15,900	82,500	23,600	28,800	22,400	6,400	7,520
16	14,300	34,200	13,900	9,500	8,200	19,500	82,400	22,100	28,400	21,900	5,990	7,410
17	12,800	34,400	14,200	9,500	8,400	20,800	79,200	19,600	27,800	20,900	6,500	6,670
18	12,100	34,300	14,800	7,900	8,500	26,000	74,100	19,600	27,900	19,100	7,050	6,310
19	11,100	33,600	14,800	8,400	11,000	25,100	69,900	19,700	27,300	17,900	7,710	6,060
20	10,600	32,300	14,300	8,500	7,900	27,400	65,700	20,600	27,500	17,900	8,130	5,760
21	10,900	31,900	12,000	8,400	8,300	29,000	62,200	20,500	25,700	17,600	7,970	5,340
22	10,200	31,200	12,400	9,300	7,300	30,500	58,600	21,900	24,600	17,100	7,690	5,810
23	10,200	20,100	12,000	9,500	8,000	32,000	55,100	24,900	24,000	16,300	9,440	7,470
24	11,300	23,100	12,300	9,000	10,200	34,100	51,500	27,800	23,300	15,300	8,640	7,070
25	11,600	14,000	11,800	9,200	11,200	36,400	49,300	29,400	22,100	14,700	8,220	7,490
26	11,000	14,600	11,600	9,300	12,600	37,900	46,800	30,600	20,700	13,600	7,570	7,820
27	11,400	14,800	11,800	9,100	12,000	39,500	44,600	32,900	20,700	12,400	6,610	6,840
28	11,900	14,400	10,100	9,200	10,800	40,800	43,200	34,900	20,600	12,500	6,800	6,950
29	12,100	16,000	10,600	7,900	------	41,200	41,500	35,500	20,100	11,900	5,670	7,940
30	12,400	21,500	12,000	8,500	------	41,700	41,400	35,200	20,100	11,600	5,180	8,710
31	13,600	------	13,000	8,200	------	43,900	------	34,100	------	11,600	7,220	------
TOTAL	320,700	690,800	454,900	297,600	249,200	700,800	1,799.0M	935,500	797,300	598,800	235,570	223,720
MEAN	10,350	23,030	14,670	9,600	8,900	22,610	59,970	30,180	26,580	19,320	7,599	7,457
MAX	15,300	34,400	23,600	13,100	12,600	43,900	82,500	40,900	32,700	26,200	11,200	9,440
MIN	3,450	14,000	10,100	7,900	7,300	8,900	41,400	19,600	20,100	11,600	5,180	5,340
CFSM	.23	.51	.33	.21	.20	.50	1.34	.67	.59	.43	.17	.17
IN.	.27	.57	.38	.25	.21	.58	1.49	.78	.66	.50	.20	.19

CAL YR 1970 TOTAL 5,530,140 MEAN 15,150 MAX 52,800 MIN 3,450 CFSM .34 IN 4.59
WTR YR 1971 TOTAL 7,303,890 MEAN 20,010 MAX 82,500 MIN 3,450 CFSM .45 IN 6.06

05356000 Chippewa River at Bishops Bridge, near Winter, Wis.

LOCATION.--Lat 45°50'57", long 91°04'44", in sec.23, T.39 N., R.6 W., Sawyer County, on right bank 15 ft upstream from highway bridge on County Trunk G, 3.2 miles downstream from Lake Chippewa Dam, and 3.7 miles northwest of Winter.

DRAINAGE AREA.--787 sq mi.

PERIOD OF RECORD.--February 1912 to current year. December to April 1913, monthly discharge only, published in WSP 1308.

GAGE.--Water-stage recorder. Altitude of gage is 1,270 ft (from Lake Chippewa datum). See WSP 1708 or 1728 for history of changes prior to July 23, 1930.

AVERAGE DISCHARGE.--59 years, 707 cfs.

EXTREMES.--Current year: Maximum discharge, 3,290 cfs Feb. 16 (gage height, 7.66 ft); minimum, 50 cfs Aug. 11 (gage height, 3.60 ft); minimum daily, 96 cfs May 6.

Period of record: Maximum discharge, 7,520 cfs Sept. 4, 5, 1914 (gage height, 11.05 ft); minimum, 14 cfs Apr. 17-20, 1925 (gage height, 3.25 ft).

REMARKS.--Records good. Flow regulated by Moose Lake and Lake Chippewa (see p. 90).

REVISIONS (WATER YEARS).--WSP 1208: Drainage area. WSP 1438: 1913 (M), 1915-18 (M), 1919, 1920-23 (M), 1924, 1925 (M), 1927 (M), 1928, 1929-30 (M), 1939 (M).

Rating table (gage height, in feet, and discharge, in cubic feet per second).

3.8	86	5.0	560
4.2	196	6.0	1,370
4.6	350	7.0	2,430

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	137	1,150	1,490	1,340	1,200	1,610	140	111	2,150	202	507	636
2	136	1,250	1,490	1,330	1,200	1,390	140	101	1,990	198	299	631
3	165	1,600	1,490	1,330	1,200	1,230	140	97	1,250	196	298	629
4	193	1,600	1,480	1,320	1,200	895	136	103	768	198	297	646
5	166	1,600	1,480	1,320	1,200	519	126	102	666	196	298	675
6	139	1,600	1,470	1,310	1,190	653	125	96	664	196	328	588
7	143	1,590	1,470	1,310	1,180	653	129	172	666	197	362	477
8	149	1,590	1,460	1,300	1,180	650	141	240	584	262	449	432
9	150	1,630	1,450	1,300	1,180	631	182	318	480	330	369	379
10	174	1,600	1,450	1,290	1,190	528	214	319	442	330	370	326
11	196	1,570	1,440	1,280	1,190	477	275	318	443	331	265	271
12	196	1,570	1,440	1,270	1,180	480	238	319	441	335	343	224
13	196	1,560	1,440	1,270	1,180	477	181	316	446	334	350	222
14	195	1,560	1,440	1,270	1,180	502	141	319	446	332	347	221
15	196	1,560	1,430	1,270	1,400	640	127	319	445	487	347	221
16	196	1,560	1,420	1,260	2,080	683	130	288	415	621	348	221
17	196	1,550	1,420	1,260	2,090	716	126	240	395	620	347	221
18	196	1,550	1,410	1,250	1,980	658	116	244	355	626	378	221
19	196	1,550	1,410	1,240	1,930	504	113	253	310	622	370	221
20	196	1,540	1,410	1,240	1,890	170	114	255	310	619	357	220
21	196	1,540	1,400	1,230	1,850	130	105	304	312	619	355	220
22	196	1,530	1,400	1,220	1,650	140	103	423	279	626	354	222
23	197	1,500	1,390	1,220	1,630	140	102	501	251	632	495	226
24	202	1,500	1,390	1,210	1,650	140	101	1,050	254	631	632	222
25	202	1,500	1,380	1,210	1,740	140	98	1,210	253	632	633	221
26	200	1,530	1,380	1,210	1,800	140	97	1,090	255	631	633	221
27	226	1,500	1,370	1,200	1,930	132	99	1,150	254	634	633	221
28	229	1,510	1,360	1,200	1,750	135	107	1,610	235	623	633	225
29	218	1,500	1,360	1,200	------	140	106	2,170	206	632	634	223
30	366	1,490	1,350	1,200	------	140	107	2,160	223	620	634	225
31	562	------	1,340	1,200	------	140	------	2,160	------	609	635	------
TOTAL	6,305	45,880	44,110	39,060	42,020	15,583	4,059	18,358	16,188	14,121	13,300	9,908
MEAN	203	1,529	1,423	1,260	1,501	503	135	592	540	456	429	330
MAX	562	1,630	1,490	1,340	2,090	1,610	275	2,170	2,150	634	635	675
MIN	136	1,150	1,340	1,200	1,180	130	97	96	206	196	265	220
CFSM	.26	1.94	1.81	1.60	1.91	.64	.17	.75	.69	.58	.55	.42
IN.	.30	2.17	2.08	1.85	1.99	.74	.19	.87	.77	.67	.63	.47

CAL YR 1970 TOTAL 195,763 MEAN 536 MAX 1,630 MIN 122 CFSM .68 IN 9.25
WTR YR 1971 TOTAL 268,892 MEAN 737 MAX 2,170 MIN 96 CFSM .94 IN 12.71

05356500 Chippewa River near Bruce, Wis.

LOCATION.--Lat 45°27'08", long 91°15'39", in SE 1/4 sec.5, T.34 N., R.7 E., Rusk County, on right bank 1.0 mile east of Bruce and 1.0 mile downstream from Thornapple River.

DRAINAGE AREA.--1,630 sq mi, approximately.

PERIOD OF RECORD.--December 1913 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,059.62 ft above mean sea level. Prior to May 28, 1935, nonrecording gage at railroad bridge 0.8 mile upstream at datum 2.30 ft higher. May 29, 1935, to current year, water-stage recorder at present site and datum.

AVERAGE DISCHARGE.--57 years, 1,435 cfs.

EXTREMES.--Current year: Maximum discharge, 15,200 cfs Apr. 10 (gage height, 13.62 ft); minimum, 365 cfs Oct. 3 (gage height, 1.39 ft).

Period of record: Maximum discharge, 25,800 cfs Sept. 1, 1941 (gage height, 20.46 ft, from floodmarks), from rating curve extended above 20,000 cfs; minimum, 155 cfs June 10, 1932 (gage height, 0.9 ft, site and datum then in use).

REMARKS.--Records good except those for winter period, which are fair. Flow from 48 percent of the drainage area regulated by Moose Lake and Lake Chippewa (see p. 90).

REVISIONS (WATER YEARS).--WSP 875: 1936-38. WSP 1278: Drainage area. WSP 1308: 1922, 1937 (M). WSP 1508: 1914-26 (M), 1927, 1928-31 (M), 1932, 1933 (M), 1934-36, 1938.

Rating table (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 23 to Apr. 6.)

1.3	324	5.0	3,040
2.0	728	8.0	6,410
3.0	1,420	11.0	10,010
		14.0	15,510

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	449	2,780	2,500	1,800	1,700	2,300	1,100	1,560	2,970	3,060	1,070	1,060
2	444	2,800	3,300	1,800	1,600	2,000	1,200	1,680	2,860	2,370	917	975
3	404	3,000	3,200	1,800	1,600	1,800	1,300	1,590	2,530	1,450	714	1,010
4	419	3,290	2,800	1,800	1,600	1,600	1,300	1,460	1,840	1,070	683	1,020
5	452	3,000	2,500	1,800	1,600	1,400	1,500	1,540	1,440	917	697	1,300
6	437	2,610	2,300	1,700	1,600	1,200	2,600	1,440	1,330	795	611	1,270
7	425	2,470	2,200	1,700	1,600	1,200	3,870	1,260	1,430	744	682	1,090
8	628	2,400	2,100	1,700	1,600	1,100	5,510	1,160	1,830	727	705	872
9	1,080	2,900	2,000	1,700	1,600	1,100	8,950	1,130	1,630	747	837	841
10	1,270	5,250	2,000	1,700	1,600	1,100	13,800	1,100	1,310	774	786	756
11	1,080	4,910	1,900	1,700	1,600	1,200	12,900	1,020	1,190	758	571	735
12	940	4,650	1,900	1,700	1,600	1,200	14,100	1,050	1,270	747	608	719
13	873	4,420	1,900	1,700	1,800	1,400	12,700	969	1,240	756	686	608
14	769	3,790	1,900	1,700	2,200	1,500	9,050	898	1,130	738	949	578
15	713	3,220	1,900	1,700	2,400	1,600	6,070	875	1,020	724	974	574
16	660	2,880	1,800	1,700	2,700	1,700	4,220	826	1,010	888	808	554
17	621	2,560	1,700	1,700	2,700	1,800	3,670	823	954	1,040	752	552
18	574	2,430	1,700	1,700	2,700	1,800	3,170	788	922	1,140	877	544
19	584	2,450	1,700	1,700	2,600	1,700	2,780	908	1,050	1,590	1,940	523
20	567	2,490	1,700	1,700	2,500	1,400	2,430	1,330	1,060	1,590	2,220	537
21	556	2,450	1,800	1,700	2,500	1,100	2,030	1,480	964	1,350	1,690	525
22	555	2,410	1,800	1,700	2,500	1,100	1,750	1,380	855	1,240	1,260	532
23	559	2,100	1,800	1,700	2,400	1,000	1,430	1,360	762	1,160	1,060	544
24	715	2,300	1,800	1,700	2,400	1,000	1,190	3,380	737	1,060	1,080	598
25	958	2,600	1,800	1,700	2,500	1,000	1,080	6,850	756	1,070	1,130	570
26	959	2,700	1,800	1,700	2,500	980	991	6,170	729	1,070	1,070	564
27	1,660	2,400	1,800	1,700	2,600	980	914	4,460	709	1,040	1,050	577
28	3,600	2,300	1,800	1,700	2,500	980	1,030	3,600	685	1,250	1,030	655
29	3,760	2,100	1,800	1,700	------	980	1,500	3,580	819	1,310	999	887
30	3,160	2,100	1,800	1,700	------	980	1,510	3,330	2,190	1,210	998	1,170
31	2,810	------	1,800	1,700	------	1,000	------	3,100	------	1,150	1,030	------
TOTAL	32,681	87,760	62,800	53,200	58,800	41,200	125,645	62,097	39,222	35,535	30,484	22,740
MEAN	1,054	2,925	2,026	1,716	2,100	1,329	4,188	2,003	1,307	1,146	983	758
MAX	3,760	5,250	3,300	1,800	2,700	2,300	14,100	6,850	2,970	3,060	2,220	1,300
MIN	404	2,100	1,700	1,700	1,600	980	914	788	685	724	571	523
CFSM	.65	1.79	1.24	1.05	1.29	.82	2.57	1.23	.80	.70	.60	.47
IN.	.75	2.00	1.43	1.21	1.34	.94	2.87	1.42	.90	.81	.70	.5

CAL YR 1970 TOTAL 495,216 MEAN 1,357 MAX 9,700 MIN 362 CFSM .83 IN 11.30
WTR YR 1971 TOTAL 652,164 MEAN 1,787 MAX 14,100 MIN 404 CFSM 1.10 IN 14.88

05358300 Pine Creek near Oxbo, Wis.

LOCATION.--Lat 45°54'12", long 90°41'00", in SE 1/4 sec.36, T.40 N., R.3 W., Sawyer County, Chequamegon National Forest, on right bank just downstream from culvert on County Trunk Highway EE, 2.0 miles upstream from mouth and 3.0 miles northeast of Oxbo.

DRAINAGE AREA.--37.8 sq mi.

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1967-70. October 1970 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,400 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 590 cfs Apr. 12 (gage height, 4.73 ft); minimum daily, 16 cfs Sept. 19-22.

REMARKS.--Records fair except those for periods of no gage-height record and winter periods, which are poor.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	57	26	25	21	21	40	54	60	85	21	18
2	20	54	64	25	21	21	43	56	53	69	20	18
3	19	54	55	25	21	22	47	55	48	36	20	18
4	19	54	48	25	21	22	52	55	42	28	19	17
5	18	53	46	25	21	23	59	53	39	27	19	17
6	18	51	42	25	21	24	66	51	36	31	18	17
7	18	48	44	25	21	24	79	56	43	32	17	17
8	20	44	40	25	21	25	81	53	49	28	17	17
9	26	43	37	24	21	26	85	46	42	27	17	17
10	26	46	31	24	21	27	134	43	35	26	17	17
11	26	46	33	24	21	28	349	40	32	25	17	17
12	25	48	31	23	21	29	530	39	31	24	18	18
13	24	47	31	23	21	30	565	37	31	24	19	18
14	22	45	31	22	21	31	500	39	31	24	29	19
15	21	40	31	22	21	32	390	32	28	23	24	18
16	24	55	31	22	21	33	340	28	25	22	18	18
17	23	55	31	21	21	34	349	27	24	22	18	18
18	22	53	31	21	21	35	342	36	24	23	33	17
19	20	35	28	21	21	36	276	68	25	26	77	16
20	20	27	27	21	21	35	213	92	25	26	54	16
21	20	27	26	21	21	35	156	86	25	24	31	16
22	19	27	26	21	21	34	114	66	25	24	25	16
23	20	26	26	21	21	34	99	62	22	23	24	18
24	29	27	26	21	21	34	85	208	22	23	22	19
25	25	36	26	21	21	34	81	335	24	22	21	19
26	27	34	26	21	21	34	67	270	24	20	20	19
27	42	29	26	21	21	35	53	190	22	19	18	20
28	61	31	26	21	21	36	53	124	21	22	18	22
29	69	21	26	21	------	38	54	87	26	22	20	28
30	69	32	25	21	------	40	52	75	116	22	18	45
31	62	------	25	21	------	39	------	68	------	22	18	------
TOTAL	875	1,245	1,022	699	588	951	5,354	2,531	1,050	871	727	570
MEAN	28.2	41.5	33.0	22.5	21.0	30.7	178	81.6	35.0	28.1	23.5	19.0
MAX	69	57	64	25	21	40	565	335	116	85	77	45
MIN	18	21	25	21	21	21	40	27	21	19	17	16
CFSM	.75	1.10	.87	.60	.56	.81	4.71	2.16	.93	.74	.62	.50
IN.	.86	1.23	1.01	.69	.58	.94	5.27	2.49	1.03	.86	.72	.56

WTR YR 1971 TOTAL 16,483 MEAN 45.2 MAX 565 MIN 16 CFSM 1.20 IN 16.22

NOTE.--No gage-height record July 8 to Aug. 11.

05358500 Flambeau River at Babbs Island, near Winter, Wis.

LOCATION.--Lat 45°46'07", long 90°45'41", in SE 1/4 sec.17, T.38 N., R.3 W., Sawyer County, on right bank 3.6 miles upstream from Connors Creek, 11.5 miles upstream from South Fork Flambeau River, 13 miles east of Winter, and at mile 61.9.

DRAINAGE AREA.--1,000 sq mi.

PERIOD OF RECORD.--August 1929 to current year. Monthly discharge only for some periods, published in WSP 1308.

GAGE.--Water-stage recorder. Altitude of gage is 1,330 ft (from river profile map). Prior to Oct. 1, 1934, at bridge 300 ft upstream at datum 9.0 ft lower. Oct. 1, 1934, to Sept. 8, 1938, at bridge 300 ft upstream present datum. Sept. 8, 1938, to current year at present site and datum.

AVERAGE DISCHARGE.--42 years, 974 cfs.

EXTREMES.--Current year: Maximum discharge, 4,600 cfs Apr. 10 (gage height, 5.41 ft); minimum, 203 cfs Nov. 23 (gage height, 0.41 ft).
Period of record: Maximum discharge, 9,440 cfs June 25, 1946 (gage height, 9.45 ft); minimum, 86 cfs Oct. 21, 22, 1948 (gage height, 0.20 ft); minimum daily, 118 cfs Oct. 10, 1948.

REMARKS.--Records good except those for winter periods or backwater from regetation, which are fair. Flow regulated by Rest Lake and Flambeau Flowage reservoirs (see p. 90).

REVISIONS (WATER YEARS).--WSP 855: 1935-36. WSP 1175: Drainage area. WSP 1508: 1930.

Rating table except periods of backwater from vegetation (gage height, in feet, and discharge, in cubic feet per second). (Stage-discharge relation affected by ice Nov. 24 to Apr. 8).

0.7	298	1.3	571	2.5	1,420
.9	375	1.6	750	3.0	1,850
1.1	466	2.0	1,020	4.0	2,900
				6.0	5,320

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	517	909	540	820	1,000	1,100	1,600	1,470	1,340	1,260	779	600
2	511	667	540	840	1,000	1,100	1,700	1,700	1,380	1,130	766	704
3	467	706	540	840	1,000	1,100	1,800	1,440	1,270	1,000	742	571
4	523	733	520	860	1,000	1,100	1,800	1,390	1,280	963	843	484
5	478	617	520	860	1,000	1,100	2,000	1,370	1,300	866	761	574
6	528	628	520	880	1,000	1,100	2,100	1,260	1,390	989	774	705
7	472	581	520	900	1,000	1,100	2,300	1,260	1,000	995	762	545
8	672	580	540	920	1,000	1,100	2,800	1,150	1,520	898	765	451
9	958	580	560	940	1,000	1,100	3,580	1,080	1,270	919	670	390
10	778	976	580	960	1,000	1,100	4,200	886	1,230	915	755	455
11	856	851	600	960	1,000	1,100	3,130	964	1,110	929	774	494
12	677	1,050	600	980	1,000	1,100	3,820	808	913	873	588	452
13	712	963	620	1,000	1,000	1,100	4,010	820	1,110	981	668	407
14	651	884	620	1,000	1,000	1,100	3,420	853	1,070	945	962	393
15	547	600	620	1,000	1,000	1,100	2,910	839	987	905	551	409
16	511	548	640	1,000	1,000	1,100	2,490	759	900	928	530	374
17	512	567	640	1,000	1,000	1,100	2,970	749	866	980	637	383
18	518	655	660	1,000	1,100	1,100	2,920	813	1,030	965	774	382
19	484	606	680	1,000	1,100	1,100	2,850	1,250	1,080	920	987	381
20	489	619	720	1,000	1,100	1,100	2,390	1,150	1,020	856	1,090	386
21	498	647	740	1,000	1,100	1,100	1,940	1,310	934	796	965	388
22	491	523	780	1,000	1,100	1,100	1,630	1,190	924	825	635	405
23	501	395	780	1,000	1,100	1,200	1,430	1,010	852	960	580	437
24	541	580	800	1,000	1,100	1,200	1,210	1,490	1,010	818	647	560
25	668	600	800	1,000	1,100	1,300	1,100	2,440	1,170	805	634	560
26	497	600	800	1,000	1,100	1,300	847	2,200	933	724	588	549
27	1,080	580	820	1,000	1,100	1,300	912	1,820	947	856	815	594
28	1,360	560	820	1,000	1,100	1,400	984	1,920	830	907	594	549
29	1,320	540	820	1,000	-------	1,400	1,250	1,530	970	864	439	519
30	1,100	540	820	1,000	-------	1,500	1,200	1,580	1,350	891	522	675
31	994	-------	820	1,000	-------	1,500	-------	1,610	-------	796	795	-------
TOTAL	20,911	19,885	20,580	29,760	29,100	36,300	67,293	40,111	32,986	28,459	22,392	14,776
MEAN	675	663	664	960	1,039	1,171	2,243	1,294	1,100	918	722	493
MAX	1,360	1,050	820	1,000	1,100	1,500	4,200	2,440	1,520	1,260	1,090	705
MIN	467	395	520	820	1,000	1,100	847	749	830	724	439	374
CFSM	.68	.66	.66	.96	1.04	1.17	2.24	1.29	1.10	.92	.72	.49
IN.	.78	.74	.77	1.11	1.08	1.35	2.50	1.49	1.23	1.06	.83	.55

CAL YR 1970 TOTAL 291,046 MEAN 797 MAX 5,140 MIN 395 CFSM .80 IN 10.83
WTR YR 1971 TOTAL 362,553 MEAN 993 MAX 4,200 MIN 374 CFSM .99 IN 13.49

NOTE.--Backwater from aquatic vegetation Oct. 1-8, June 16 to Sept. 30.

05359500 South Fork Flambeau River near Phillips, Wis.

LOCATION.--Lat 45°42'08", long 90°36'58", in NW 1/4 SW 1/4 sec.10, T.37 N., R.2 W., Price County, on left bank at downstream side of bridge on County Trunk W, 0.4 mile downstream from Big Elk River and 12 miles west of Phillips.

DRAINAGE AREA.--615 sq mi.

PERIOD OF RECORD.--August 1929 to current year. Monthly discharge only for some periods, published in WSP 1308.

GAGE.--Water-stage recorder. Altitude of gage is 1,360 ft (by barometer). Prior to Jan. 11, 1954, nonrecording gage at site 600 ft downstream at same datum. Jan. 12, 1954, to Sept. 4, 1968, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--42 years, 578 cfs (12.76 inches per year).

EXTREMES.--Current year: Maximum discharge, 5,880 cfs Apr. 13 (gage height, 11.77 ft); minimum, 149 cfs Sept. 21, 22 (gage height, 4.88 ft).

Period of record: Maximum discharge, 10,200 cfs June 18, 1943 (gage height, 14.32 ft); minimum, 39 cfs Aug. 31, Sept. 3-5, 1933.

REMARKS.--Records good except those for winter periods, which are fair.

REVISIONS (WATER YEARS).--WSP 975: 1934. WSP 1175: Drainage area. WSP 1308: 1931-34 (M), 1936-42 (M), 1944-45 (M), 1947-50 (M).

Rating table (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 24, 25, Dec. 10, 12, 14, 15, Dec. 19 to Apr. 5.)

4.8	132	8.0	1,880
5.3	288	9.0	2,780
6.0	580	10.0	3,730
7.0	1,140	12.0	6,230

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	196	949	439	320	280	260	760	1,390	795	589	243	192
2	191	859	571	330	270	260	880	1,460	658	545	229	192
3	182	854	650	330	270	260	900	1,460	537	498	220	186
4	170	857	665	320	260	270	880	1,410	518	456	212	181
5	163	848	657	310	260	270	840	1,340	506	427	204	181
6	159	814	649	300	260	280	807	1,240	483	409	191	183
7	159	729	585	290	260	280	762	1,140	516	404	184	180
8	199	643	542	290	260	290	900	1,040	636	412	179	180
9	282	638	555	290	260	300	1,250	900	754	385	174	179
10	307	701	540	280	260	310	2,020	751	773	362	176	182
11	286	701	513	280	260	330	3,570	665	731	347	174	185
12	269	731	500	280	260	350	4,900	608	651	325	171	198
13	245	714	464	280	260	370	5,830	510	604	323	185	203
14	223	670	460	280	260	390	5,630	498	567	315	219	193
15	204	556	440	290	260	410	4,990	482	490	301	218	186
16	192	449	381	290	260	410	4,270	456	431	278	216	180
17	183	408	365	290	260	410	3,880	437	391	272	205	176
18	177	387	362	290	260	410	3,610	450	437	297	214	169
19	170	388	360	290	260	410	3,330	576	600	352	376	156
20	166	404	340	300	260	420	2,840	678	969	349	492	154
21	162	410	360	300	260	440	2,410	708	1,160	321	496	150
22	160	402	350	300	260	470	2,260	685	1,180	309	442	150
23	161	396	340	300	260	520	2,030	619	938	302	389	186
24	202	470	330	300	260	560	1,780	1,110	706	290	344	204
25	259	520	320	300	260	600	1,590	1,670	536	271	318	206
26	303	525	320	300	260	640	1,390	2,090	499	239	279	205
27	566	525	310	300	260	660	1,310	2,280	467	215	243	224
28	1,050	473	310	290	260	700	1,340	2,240	418	267	225	282
29	1,290	425	310	290	------	720	1,360	1,620	413	281	209	423
30	1,290	403	320	280	------	740	1,300	1,120	556	283	198	980
31	1,100	------	320	280	------	740	------	974	------	266	194	------
TOTAL	10,666	17,849	13,628	9,170	7,320	13,480	69,619	32,607	18,920	10,690	7,819	6,646
MEAN	344	595	440	296	261	435	2,321	1,052	631	345	252	222
MAX	1,290	949	665	330	280	740	5,830	2,280	1,180	589	496	980
MIN	159	387	310	280	260	260	760	437	391	215	171	150
CFSM	.56	.97	.72	.48	.42	.71	3.77	1.71	1.03	.56	.41	.36
IN.	.65	1.08	.82	.55	.44	.82	4.21	1.97	1.14	.65	.47	.40

CAL YR 1970 TOTAL 160,627 MEAN 440 MAX 3,190 MIN 96 CFSM .72 IN 9.72
WTR YR 1971 TOTAL 218,414 MEAN 598 MAX 5,830 MIN 150 CFSM .97 IN 13.21

05360500 Flambeau River near Bruce, Wis.

LOCATION.--Lat 45°22'21", long 91°12'34", in lot 7 of NW 1/4 sec.2, T.33 N., R.7 W., Rusk County, on right bank 2.5 miles downstream from Thornapple powerplant, 6.0 miles upstream from mouth, and 7.0 miles southwest of Bruce.

DRAINAGE AREA.--1,897 sq mi.

PERIOD OF RECORD.--August 1951 to current year.

GAGE.--Water-stage recorder. Altitude of gage, 1,060 ft (by river survey, WSP 417).

AVERAGE DISCHARGE.--20 years, 1,776 cfs.

EXTREMES.--Current year: Maximum discharge, 12,700 cfs Apr. 13 (gage height, 9.05 ft); minimum, 360 cfs Nov. 25 (gage height, 2.38 ft).
Period of record: Maximum discharge, 17,400 cfs May 1, 1954 (gage height, 10.90 ft); minimum, about 100 cfs Aug. 7, 9, 1957 (gage height, 2.06 ft).

REMARKS.--Records good except those for winter periods, which are fair. Flow regulated by several powerplants above station and by Rest Lake and Flambeau Flowage reservoirs (see p. 90).

Rating table (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 27, Dec. 9 to Apr. 5.)

2.5	431	4.0	1,930
2.7	567	5.0	3,480
2.9	725	7.0	7,610
3.1	905	9.0	12,600
3.4	1,210		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	854	2,980	1,330	1,000	900	1,100	2,200	3,170	2,560	2,410	1,230	940
2	799	2,650	1,630	1,000	900	1,100	2,300	3,300	2,380	2,040	1,060	888
3	728	2,250	2,000	980	920	1,100	2,400	3,690	2,360	1,820	1,120	826
4	569	2,260	1,710	960	920	1,100	2,400	3,360	2,010	1,790	1,050	887
5	649	1,960	1,640	940	940	1,100	2,300	3,290	2,150	1,600	1,090	819
6	707	1,950	1,600	920	960	1,100	2,260	3,110	1,990	1,360	1,110	693
7	723	1,860	1,520	920	1,000	1,100	2,470	2,850	2,240	1,500	1,100	977
8	939	1,820	1,370	900	980	1,100	3,320	2,650	2,060	1,640	953	791
9	1,450	1,820	1,400	900	960	1,100	4,530	2,400	2,130	1,430	1,020	843
10	1,630	2,080	1,400	880	960	1,100	5,370	2,400	2,350	1,380	1,070	635
11	1,450	2,480	1,300	880	940	1,100	6,200	2,060	2,440	1,340	930	602
12	1,150	2,570	1,300	880	920	1,200	10,600	1,690	1,930	1,380	966	614
13	1,210	2,440	1,200	880	900	1,300	12,300	1,730	1,700	1,310	1,020	686
14	1,120	2,250	1,100	880	880	1,400	11,600	1,490	2,140	1,280	1,320	794
15	1,020	1,960	1,100	900	880	1,400	9,710	1,430	1,650	1,440	1,260	697
16	893	1,790	1,200	900	900	1,500	8,440	1,410	1,880	1,160	1,010	601
17	730	1,060	1,200	920	960	1,500	6,990	1,500	1,450	1,180	874	574
18	714	1,060	1,200	920	1,000	1,500	8,190	1,390	1,750	1,450	795	565
19	782	1,400	1,100	940	1,000	1,500	7,660	1,500	2,010	1,700	1,800	562
20	785	1,500	1,000	940	1,000	1,500	6,350	2,313	1,770	1,390	2,100	508
21	739	1,350	1,000	940	1,000	1,500	5,160	2,320	2,500	1,400	1,770	531
22	798	1,280	1,000	940	1,000	1,500	4,280	2,310	2,210	1,320	1,800	581
23	660	1,250	1,000	940	1,000	1,500	4,130	1,960	2,220	1,110	1,140	638
24	804	758	1,100	940	1,000	1,500	4,090	2,630	2,020	1,310	801	759
25	1,180	579	1,000	940	1,000	1,500	3,470	4,490	1,920	1,280	1,020	784
26	1,300	920	1,000	920	1,000	1,500	2,560	5,520	1,800	1,130	1,070	832
27	1,990	1,500	1,000	900	1,100	1,600	2,590	4,260	1,820	1,040	999	780
28	3,970	1,210	1,000	900	1,100	1,800	2,750	4,710	1,380	1,160	907	1,000
29	4,050	967	1,100	900	------	1,900	2,890	4,280	1,820	1,310	955	991
30	3,900	1,080	1,100	900	------	2,000	3,240	3,200	2,030	1,520	779	1,400
31	3,220	------	1,100	900	------	2,100	------	3,110	------	1,230	610	------
TOTAL	41,513	51,034	38,700	28,560	27,020	43,300	152,750	85,520	60,670	44,410	34,724	22,798
MEAN	1,339	1,701	1,248	921	965	1,397	5,092	2,759	2,022	1,433	1,120	760
MAX	4,050	2,980	2,000	1,000	1,100	2,100	12,300	5,520	2,560	2,410	2,100	1,400
MIN	569	579	1,000	880	880	1,100	2,200	1,390	1,380	1,040	610	508
CFSM	.71	.90	.66	.49	.51	.74	2.68	1.45	1.07	.76	.59	.40
IN.	.81	1.00	.76	.56	.53	.85	3.00	1.68	1.19	.87	.68	.45

CAL YR 1970 TOTAL 531,092 MEAN 1,455 MAX 9,800 MIN 569 CFSM .77 IN 10.41
WTR YR 1971 TOTAL 631,004 MEAN 1,729 MAX 12,300 MIN 508 CFSM .91 IN 12.37

05362000 Jump River at Sheldon, Wis.

LOCATION.--Lat 45°18'29", long 90°57'23", in sec.26, T.33 N., R.5 W., Rusk County, on right bank just downstream from highway bridge in Sheldon, 1,500 ft upstream from Shoulder Creek and 11 miles upstream from mouth.

DRAINAGE AREA.--574 sq mi.

PERIOD OF RECORD.--July 1915 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,092.75 ft above mean sea level. Prior to Feb. 9, 1939, and Sept. 1, 1941, to Apr. 1, 1953, Feb. 18, 1954, to Sept. 27, 1964, nonrecording gage at same site and datum. Apr. 2, 1953, to Feb. 18, 1954, nonrecording gage in creamery wellhouse 400 ft upstream at same datum. Feb. 9, 1939, to Aug. 31, 1941, and from Sept. 27, 1964, water-stage recorder at present site and datum.

AVERAGE DISCHARGE.--56 years, 507 cfs (11.99 inches per year).

EXTREMES.--Current year: Maximum discharge, 12,600 cfs Apr. 12 (gage height, 12.00 ft); minimum, 55 cfs Aug. 8 (gage height, 3.48 ft).

Period of record: Maximum discharge observed, 46,000 cfs Aug. 31, 1941 (gage height, 18.8 ft from floodmark), from rating curve extended above 13,000 cfs on basis of contracted-opening measurement of peak flow; minimum observed, 11 cfs Dec. 18, 1943 (gage height, 3.99 ft).

REMARKS.--Records good except those for winter period, which are fair.

REVISIONS (WATER YEARS).--WSP 975: 1938. WSP 1175: Drainage area. WSP 1438: 1916-17(M), 1919(M), 1920, 1921(M), 1922, 1923-26(M), 1927, 1928-31(M), 1932, 1933-37(M), 1945-46(M), 1948-50(M).

Rating table (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 24-26, 29, Dec. 1 to Apr. 9.)

3.3	22	6.5	1,540
3.6	68	8.0	3,290
4.0	155	10.0	6,810
4.6	342	12.0	12,600
5.5	756		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	166	1,920	440	160	110	120	600	750	475	316	120	99
2	160	1,840	520	150	110	140	660	786	391	262	104	99
3	135	1,530	660	150	110	140	640	683	350	206	93	97
4	115	1,540	640	150	110	140	720	570	306	171	83	93
5	101	1,450	540	140	120	150	860	524	266	150	76	91
6	99	1,180	460	140	120	150	1,200	499	221	137	71	90
7	101	959	360	130	120	160	1,600	449	204	122	65	93
8	115	746	290	130	120	160	2,300	404	373	146	65	93
9	163	755	250	130	120	170	4,500	346	596	130	61	96
10	250	562	230	120	120	180	8,640	309	515	117	115	102
11	256	944	220	120	120	200	12,100	265	445	103	308	104
12	265	843	220	120	120	210	12,100	235	576	96	271	105
13	234	759	210	120	120	210	10,400	214	497	94	197	103
14	207	667	200	120	120	220	7,490	191	366	89	769	93
15	188	570	190	120	120	220	5,080	175	273	85	986	83
16	163	499	180	120	130	230	3,670	156	217	77	615	76
17	150	452	190	120	130	240	3,290	145	176	70	392	70
18	140	424	190	110	130	240	3,190	181	155	87	282	65
19	130	416	190	110	130	250	2,730	340	187	214	631	61
20	126	448	200	110	130	260	2,110	539	300	657	957	58
21	119	556	200	110	130	310	1,690	561	351	516	719	57
22	115	565	190	110	130	340	1,320	475	314	331	480	59
23	119	256	180	110	130	370	977	356	269	232	336	68
24	175	303	170	110	130	380	774	1,350	236	180	258	70
25	528	340	160	110	130	390	650	4,100	220	143	218	84
26	792	393	160	110	130	360	542	4,240	290	127	184	88
27	2,080	383	160	110	130	350	481	2,920	291	118	158	85
28	4,060	392	160	110	130	340	494	1,900	236	108	139	165
29	4,030	400	160	110	------	330	635	1,250	254	111	121	219
30	3,110	404	160	110	------	330	705	838	312	136	111	349
31	2,300	------	150	110	------	390	------	615	------	129	104	------
TOTAL	20,692	22,980	8,230	3,780	3,450	7,710	92,158	26,406	9,662	5,460	9,089	2,995
MEAN	667	766	265	122	123	249	3,072	852	322	176	293	99.8
MAX	4,060	1,920	660	160	130	390	12,100	4,240	596	657	986	349
MIN	99	256	160	110	110	120	481	145	155	70	61	57
CFSM	1.16	1.33	.46	.21	.21	.43	5.35	1.48	.56	.31	.51	.17
IN.	1.34	1.49	.53	.24	.22	.50	5.97	1.71	.63	.35	.59	.19

CAL YR 1970 TOTAL 146,545 MEAN 401 MAX 4,060 MIN 30 CFSM .70 IN 9.50
WTR YR 1971 TOTAL 212,412 MEAN 582 MAX 12,100 MIN 57 CFSM 1.01 IN 13.79

PEAK DISCHARGE (BASE, 3,500 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
10-28	1800	8.76	4,480	5-25	2200	8.86	4,650
4-12	0330	12.00	12,600				

05365500 Chippewa River at Chippewa Falls, Wis.

LOCATION.--Lat 44°55'37", long 91°24'33", in Lot 1, sec.12, T.28 N., R.9 W., Chippewa County, on right bank at Chippewa Falls, 1.0 mile downstream from Duncan Creek.

DRAINAGE AREA.--5,600 sq mi, approximately.

PERIOD OF RECORD.--June 1888 to current year. Monthly discharge only for some periods, published in WSP 1308.

GAGE.--Water-stage recorder. Datum of gage is 798.46 ft above mean sea level. Prior to January 1914, nonrecording gage, and January 1914 to June 19, 1932, water-stage recorder at site 1 mile upstream at different datum. June 19, 1932, to current year, water-stage recorder at present site and datum.

AVERAGE DISCHARGE.--83 years, 5,069 cfs.

EXTREMES.--Current year: Maximum discharge, 49,700 cfs Apr. 13 (gage height, 17.36 ft); minimum daily, 423 cfs Sept. 26.

Period of record: Maximum discharge, 102,000 cfs Sept. 1, 1941 (gage height, 24.8 ft); minimum, 22 cfs Apr. 2, 1934 (gage height, 0.63 ft); minimum daily, 40 cfs Feb. 4, 1917. Maximum stage known, 26.94 ft Sept. 10, 1884, site and datum in use to June 1932.

REMARKS.--Records good. Considerable regulation by Moose Lake, Lake Chippewa, Rest Lake, Flambeau Flowage, and Lake Wissota reservoirs (see p. 90).

REVISIONS (WATER YEARS).--WSP 785: 1934 (M). WSP 1508: 1897, 1905, 1918 (M), 1924 (M).

Rating table (gage height, in feet, and discharge, in cubic feet per second).

1.5	325	8.0	11,200
2.0	583	12.0	24,500
3.0	1,440	16.0	42,400
5.0	4,440	20.0	65,100

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2,010	11,600	5,110	3,620	4,100	5,580	9,390	8,060	9,160	4,870	2,090	4,020
2	2,280	10,400	6,830	3,430	3,500	5,800	9,130	6,300	8,180	8,140	3,090	2,870
3	936	12,600	9,060	3,290	3,400	7,150	8,880	7,920	6,520	3,150	1,920	2,830
4	835	12,700	9,990	3,730	3,100	5,890	8,830	7,850	5,820	2,480	2,700	904
5	1,800	11,400	8,670	3,470	3,700	5,050	8,740	7,470	4,460	3,840	2,040	1,290
6	2,480	9,270	5,020	3,300	3,300	4,940	8,760	6,893	4,320	2,590	2,080	2,110
7	2,380	8,480	5,270	2,990	2,600	3,590	8,860	6,450	5,740	3,500	834	3,590
8	4,600	8,450	5,330	4,560	3,300	6,170	9,170	5,100	4,630	4,460	728	3,810
9	2,470	9,230	5,480	3,490	2,900	5,250	9,550	5,080	5,030	3,320	3,520	1,780
10	3,580	11,100	5,360	2,320	2,900	4,380	10,400	5,110	5,660	757	2,050	2,010
11	3,430	11,700	5,420	3,700	3,400	5,740	40,800	4,860	6,010	1,130	2,240	1,160
12	4,190	12,600	5,370	4,100	3,600	5,090	46,200	4,060	6,230	3,470	3,040	1,270
13	3,470	10,200	2,620	3,200	4,400	4,420	48,600	3,070	3,490	1,720	2,940	2,470
14	3,240	10,400	5,810	3,700	4,200	5,550	44,800	3,500	5,120	3,060	3,340	3,680
15	3,330	10,100	4,090	3,700	4,400	5,030	32,100	2,430	4,490	2,960	3,440	932
16	2,960	9,230	3,520	3,900	5,00C	7,220	25,900	1,900	3,490	3,590	3,660	1,350
17	846	6,370	3,810	3,700	4,700	6,380	18,000	4,330	4,360	954	2,260	1,350
18	787	5,070	4,730	4,200	5,700	7,620	19,300	3,830	4,560	2,690	2,480	565
19	2,930	5,530	4,530	3,300	6,000	7,190	18,900	4,550	1,180	3,660	4,370	593
20	1,950	5,910	2,470	3,100	5,700	7,230	15,000	2,900	4,040	5,420	6,410	1,810
21	2,650	6,090	4,850	2,800	4,100	7,780	13,200	5,880	3,900	5,140	6,610	1,630
22	2,210	6,350	2,430	4,200	5,050	5,940	11,200	6,190	4,720	2,090	4,010	1,390
23	2,040	5,570	4,170	3,400	7,400	5,340	9,730	5,270	3,900	3,470	4,270	1,320
24	1,550	3,820	3,580	3,000	5,630	5,180	8,630	6,700	4,180	2,730	4,170	1,510
25	1,960	3,230	3,540	4,100	6,500	5,270	6,460	17,900	4,330	1,640	1,880	1,030
26	5,560	2,080	3,140	3,600	5,220	4,560	6,080	26,400	2,060	2,910	3,480	423
27	8,370	4,600	3,230	3,700	6,700	4,280	5,990	17,600	2,250	2,700	2,750	2,270
28	15,100	5,190	3,430	3,200	4,100	4,040	5,630	16,700	3,840	3,270	2,170	3,020
29	21,700	4,360	3,430	3,700	------	5,470	5,720	11,900	3,710	2,990	1,140	2,960
30	19,200	5,380	4,130	2,500	------	5,670	7,500	10,100	3,640	3,120	2,900	3,710
31	16,400	------	3,840	1,700	------	5,990	------	9,950	------	1,480	1,560	------
TOTAL	147,224	239,010	148,250	106,700	124,600	174,790	481,450	236,250	139,020	97,301	90,172	59,657
MEAN	4,749	7,967	4,782	3,442	4,450	5,638	16,050	7,621	4,634	3,139	2,909	1,989
MAX	21,700	12,700	9,990	4,560	7,400	7,780	48,600	26,400	9,160	8,140	6,610	4,020
MIN	787	2,080	2,430	1,700	2,600	3,590	5,630	1,900	1,180	757	728	423
CFSM	.85	1.42	.85	.61	.79	1.01	2.87	1.36	.83	.56	.52	.36
IN.	.98	1.59	.98	.71	.83	1.16	3.20	1.57	.92	.65	.60	.40

CAL YR 1970 TOTAL 1,585,789 MEAN 4,345 MAX 25,100 MIN 234 CFSM .78 IN 10.53
WTR YR 1971 TOTAL 2,044,424 MEAN 5,601 MAX 48,600 MIN 423 CFSM 1.00 IN 13.58

05368000 Hay River at Wheeler, Wis.

LOCATION.--Lat 45°02'52", long 91°54'39", in SW 1/4 sec.25, T.30 N., R.13 W., Dunn County, on right bank 25 ft downstream from highway bridge in Wheeler, 1.8 miles upstream from Otter Creek, and 2.4 miles downstream from South Fork Hay River.

DRAINAGE AREA.--426 sq mi.

PERIOD OF RECORD.--October 1950 to current year.

GAGE.--Water-stage recorder. Datum of gage is 893.66 ft above mean sea level. Prior to Mar. 25, 1951, nonrecording gage.

AVERAGE DISCHARGE.--21 years, 280 cfs (8.93 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,660 cfs June 11 (gage height, 8.69 ft); minimum daily, 202 cfs Oct. 5.

Period of record: Maximum discharge, 13,600 cfs Mar. 31, 1967 (gage height, 15.04 ft), from rating curve extended above 9,000 cfs; minimum, 55 cfs Mar. 13, 1954 (gage height, 2.32 ft), result of freezeup.

Maximum stage known since 1915, 16.6 ft in April 1934, from floodmarks.

REMARKS.--Records good except those for winter periods, which are fair.

REVISIONS.--WSP 1338: Drainage area.

Rating table (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 16, Dec. 21 to Feb. 25, Feb. 27.)

2.6	193	6.0	1,200
3.0	275	8.0	2,090
4.0	538	9.0	2,850

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	219	545	332	250	210	243	2,090	385	358	1,690	259	246
2	216	544	329	240	210	251	2,260	369	337	856	250	243
3	210	701	326	240	210	256	1,270	351	320	579	243	237
4	204	1,260	323	240	210	258	932	359	310	471	237	240
5	202	951	320	240	210	249	840	372	311	411	232	294
6	203	671	317	240	210	245	984	341	564	378	228	279
7	205	570	314	230	210	240	1,320	322	476	356	225	251
8	241	508	313	230	210	233	1,720	309	609	468	222	243
9	458	584	312	230	210	232	2,030	296	640	434	218	260
10	960	1,450	289	230	210	243	1,940	291	479	337	217	350
11	895	1,360	291	230	210	240	1,420	285	1,520	321	214	341
12	603	1,270	280	230	210	240	1,110	269	1,960	315	211	279
13	494	1,180	282	230	210	244	898	253	812	314	213	256
14	432	1,090	263	230	210	274	730	246	591	299	374	243
15	389	1,000	275	230	210	363	632	242	515	296	393	234
16	354	910	280	230	220	392	601	235	464	287	294	229
17	332	820	277	230	220	392	594	240	426	273	254	225
18	313	730	277	230	230	406	564	339	399	313	247	224
19	292	640	269	220	230	368	530	361	389	621	426	228
20	281	550	247	220	230	341	512	452	388	500	856	226
21	275	500	260	220	230	349	484	405	356	347	887	221
22	269	450	270	220	230	334	446	328	334	306	539	220
23	268	400	260	220	230	309	421	313	320	285	379	248
24	306	375	240	220	240	305	401	680	320	268	327	256
25	344	350	230	220	240	299	383	1,070	314	257	300	238
26	351	347	240	220	249	301	367	737	303	246	284	230
27	544	[illegible]	250	220	250	292	364	562	303	242	267	234
28	917	[illegible]	260	210	247	333	414	494	293	249	252	242
29	711	338	260	210	------	508	457	447	292	296	242	481
30	555	338	260	210	------	776	416	408	840	300	236	774
31	543	------	250	210	------	1,310	------	382	------	269	244	------
TOTAL	12,586	21,117	8,696	7,030	6,196	10,826	27,130	12,143	15,543	12,584	9,770	8,272
MEAN	406	704	281	227	221	349	904	392	518	406	315	276
MAX	960	1,450	332	250	250	1,310	2,260	1,070	1,960	1,690	887	774
MIN	202	338	230	210	210	232	364	235	292	242	211	220
CFSM	.95	1.65	.66	.53	.52	.82	2.12	.92	1.22	.95	.74	.65
IN.	1.10	1.84	.76	.61	.54	.95	2.37	1.06	1.36	1.10	.85	.72

CAL YR 1970	TOTAL 121,631	MEAN 333	MAX 2,080	MIN 152	CFSM .78	IN 10.62
WTR YR 1971	TOTAL 151,893	MEAN 416	MAX 2,260	MIN 202	CFSM .98	IN 13.26

PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
10-10	1500	5.66	1,080	5-25	0900	5.84	1,110
11- 4	1000	6.23	1,290	6-11	2400	8.69	2,660
11-10	1900	7.30	1,740	7- 1	0600	7.41	1,940
4- 2	0700	8.66	2,560				
4- 9	2400	8.03	2,110				

05369000 Red Cedar River at Menomonie, Wis.

LOCATION.--Lat 44°53'02", long 91°55'57", in NW 1/4 sec.26, T.28 N., R.13 W., Dunn County, on right bank at Menomonie, 900 ft downstream from powerplant of Northern States Power Co., and 1,000 ft downstream from Wilson Creek.

DRAINAGE AREA.--1,760 sq mi, approximately.

PERIOD OF RECORD.--June 1907 to September 1908, May 1913 to current year. Monthly discharge only for some periods, published in WSP 1308.

GAGE.--Water-stage recorder. Datum of gage is 780 ft above mean sea level (Northern States Power Co. bench mark). Prior to Sept. 3, 1908, nonrecording gage at site 1 mile downstream at different datum. May 9, 1913, to Sept. 30, 1923, water-stage recorder at same site at datum 0.42 ft lower than present datum. Oct. 1, 1923, to current year, water-stage recorder at present site and datum.

AVERAGE DISCHARGE.--59 years, 1,218 cfs.

EXTREMES.--Current year: Maximum discharge, 6,790 cfs Apr. 12 (gage height, 5.08 ft); minimum, 120 cfs July 12 (gage height, 0.77 ft); minimum daily, 705 cfs Dec. 6.

Period of record: Maximum discharge, 40,000 cfs Apr. 4, 1934 (gage height, 16.0 ft, from floodmarks), from rating curve extended above 27,000 cfs on basis of computed flow over Cedar Falls Dam 6 miles upstream; minimum, 21 cfs Dec. 9, 1928 (gage height, 0.65 ft).

REMARKS.--Records good except those for winter periods, which are fair. Flow regulated by powerplants at Menomonie and Cedar Falls and by Cedar Lake and Bear Lake reservoirs (see p. 90).

REVISIONS.--WSP 805: Drainage area.

Rating table (gage height, in feet, and discharge, in cubic feet per second).

1.7	601	3.0	2,620
2.0	965	4.0	4,440
2.5	1,730	5.0	6,580

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,060	2,580	1,730	1,360	1,030	1,210	4,750	1,760	1,910	2,550	1,010	1,280
2	1,060	2,410	2,150	1,390	1,010	1,120	5,300	1,460	1,920	2,910	1,230	1,080
3	978	2,950	2,350	1,210	958	1,110	4,830	1,400	1,690	2,240	1,080	1,100
4	884	2,730	1,550	1,220	1,060	1,350	3,760	1,780	1,380	1,580	1,200	1,240
5	949	3,160	1,250	949	992	1,360	3,260	1,790	1,300	1,490	928	1,120
6	864	3,080	705	1,100	955	1,170	3,180	1,590	1,740	1,450	1,070	1,190
7	1,150	2,260	1,240	1,200	924	1,120	3,470	1,470	2,930	1,420	1,080	1,360
8	1,210	2,270	1,390	1,020	973	1,480	4,220	1,480	2,460	1,800	1,010	769
9	2,290	2,950	1,550	1,140	1,040	1,270	5,420	1,280	1,730	1,780	1,020	1,370
10	2,640	3,360	1,410	1,150	1,050	1,410	5,630	1,390	1,080	1,490	1,110	1,390
11	2,300	3,600	1,440	1,120	1,040	1,330	5,550	1,150	2,990	1,390	997	1,280
12	2,040	3,810	1,260	1,140	1,090	1,420	5,230	1,060	4,230	1,120	787	1,160
13	1,760	3,690	1,490	1,170	1,000	1,290	4,870	1,150	3,240	1,300	1,030	1,170
14	1,460	3,210	1,120	1,190	1,060	1,660	4,310	1,100	2,340	1,120	1,380	1,060
15	1,340	2,910	1,010	1,170	1,000	1,860	3,810	898	1,960	1,240	1,600	994
16	1,290	2,410	1,490	1,170	1,080	2,240	3,290	1,040	1,710	1,150	1,420	981
17	1,180	2,260	1,560	1,120	1,140	1,900	3,100	1,180	1,710	1,070	1,240	1,010
18	1,240	2,100	1,630	1,080	1,110	2,170	3,090	1,140	1,540	1,570	1,130	1,090
19	1,170	2,010	1,400	1,090	1,140	1,840	3,050	1,650	1,620	2,310	1,480	879
20	1,150	2,030	923	1,140	1,150	1,780	2,970	1,790	1,460	1,680	1,860	938
21	1,170	1,950	1,090	1,170	1,240	1,730	2,740	1,780	1,190	1,290	2,820	991
22	1,150	1,730	1,250	1,070	1,290	1,630	2,430	1,340	1,540	923	2,500	974
23	1,270	1,270	1,370	1,210	1,120	1,580	2,300	1,540	1,220	945	1,890	1,160
24	1,390	874	1,020	1,100	1,180	1,650	872	2,490	1,260	899	1,270	1,120
25	1,570	1,370	945	1,150	1,280	1,420	1,010	3,400	1,240	794	1,280	1,150
26	1,720	1,540	991	1,150	1,330	1,700	1,880	3,400	963	1,140	1,410	1,000
27	2,240	1,400	1,130	948	1,230	1,610	2,340	2,600	1,170	936	1,240	1,170
28	3,010	1,490	1,220	1,160	1,190	1,800	1,950	2,990	1,220	1,050	1,140	1,130
29	3,220	1,390	1,240	991	------	2,350	2,230	2,520	1,010	1,250	1,070	1,200
30	2,690	2,000	1,040	1,090	------	2,640	2,090	2,210	1,430	1,210	1,130	2,150
31	2,610	------	1,290	1,030	------	3,420	------	2,180	------	1,190	1,050	------
TOTAL	50,055	70,794	41,234	35,198	30,662	51,620	102,932	54,008	53,183	44,287	40,462	34,506
MEAN	1,615	2,360	1,330	1,135	1,095	1,665	3,431	1,742	1,773	1,429	1,305	1,150
MAX	3,220	3,810	2,350	1,390	1,330	3,420	5,630	3,400	4,230	2,910	2,820	2,150
MIN	864	874	705	948	924	1,110	872	898	963	794	787	769
CFSM	.92	1.34	.76	.64	.62	.95	1.95	.99	1.01	.81	.74	.65
IN.	1.06	1.50	.87	.74	.65	1.09	2.18	1.14	1.12	.94	.86	.73

CAL YR 1970 TOTAL 519,198 MEAN 1,422 MAX 6,080 MIN 520 CFSM .81 IN 10.97
WTR YR 1971 TOTAL 608,941 MEAN 1,668 MAX 5,630 MIN 705 CFSM .95 IN 12.87

05369500 Chippewa River at Durand, Wis.

LOCATION.--Lat 44°37'40", long 91°58'10", in SW 1/4 sec.21, T.25 N., R.13 W., in Pepin County, on left bank 75 ft downstream from bridge on U.S. Highway 10, and 9.5 miles downstream from Red Cedar River.

DRAINAGE AREA.--9,010 sq mi, approximately.

PERIOD OF RECORD.--July 1928 to current year.

GAGE.--Water-stage recorder. Datum of gage is 694.59 ft above mean sea level. Prior to Dec. 9, 1930, nonrecording gage at bridge 400 ft downstream at same datum.

AVERAGE DISCHARGE.--43 years, 7,367 cfs.

EXTREMES.--Current year: Maximum discharge, 57,000 cfs Apr. 14 (gage height, 12.70 ft); minimum daily, 2,670 cfs Oct. 5.

Period of record: Maximum discharge, 123,000 cfs Apr. 2, 1967 (gage height, 16.93 ft); minimum observed, 1,020 cfs Nov. 24, 1950 (gage height, 0.12 ft).

Maximum stage known, 18.4 ft Sept. 12, 1884.

REMARKS.--Records good except those for winter period, which are fair. Flow regulated by powerplants, Moose Lake, Lake Chippewa, Rest Lake, Flambeau Flowage, and Lake Wissota on Chippewa and Flambeau Rivers, and by Cedar and Bear Lakes on upper Red Cedar River (see p. 90).

REVISIONS (WATER YEARS).--WSP 785: 1930, 1934 (M). WSP 875: 1930 (monthly and yearly runoff). WSP 925: 1938. WSP 1508: 1929 (M), 1932.

Rating table (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 20 to Mar. 28.)

0.5	2,140	5.0	12,710
1.0	2,960	8.0	23,700
2.0	4,790	10.0	34,300
3.0	7,070	13.0	61,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4,440	21,000	8,670	6,200	6,000	9,800	17,400	11,700	13,100	6,270	3,910	3,830
2	3,810	14,800	9,110	6,200	6,000	9,800	20,200	10,600	12,400	8,730	4,000	5,330
3	3,810	15,700	10,700	6,200	6,000	9,600	20,200	9,910	11,200	8,570	4,800	4,790
4	2,880	18,500	13,200	6,400	5,800	9,400	19,300	10,900	9,480	6,000	4,210	4,530
5	2,670	17,200	13,200	6,400	5,800	9,400	16,700	11,500	8,550	5,000	4,710	3,740
6	3,580	16,800	10,500	6,400	5,800	9,200	15,700	10,800	7,180	5,410	3,440	3,510
7	3,910	14,500	8,120	6,400	5,800	9,000	15,800	10,300	8,080	4,990	3,930	4,010
8	4,590	12,100	8,940	6,400	6,000	9,000	17,400	9,710	9,640	5,930	3,040	5,140
9	6,260	12,800	7,940	6,600	6,000	8,800	20,100	7,840	8,230	6,770	3,100	6,010
10	6,290	15,700	7,860	6,600	6,200	8,600	22,200	7,650	7,980	5,460	4,590	5,030
11	6,140	15,600	8,030	6,600	6,200	8,600	27,200	7,710	8,720	3,770	4,280	4,780
12	6,260	17,700	8,100	6,600	6,400	8,600	43,700	7,160	9,850	3,260	3,800	4,020
13	6,180	16,600	7,110	6,600	6,600	8,800	54,500	6,590	9,660	5,030	4,240	4,230
14	5,740	15,200	6,030	6,600	6,800	9,000	56,700	5,500	7,230	3,940	4,860	4,640
15	5,250	14,500	7,990	6,600	7,000	9,200	53,100	5,420	7,700	4,900	5,310	4,970
16	5,240	14,000	7,760	6,600	7,400	9,800	41,000	4,800	6,610	4,720	5,560	3,790
17	4,970	11,600	6,540	6,600	7,600	11,000	30,900	4,520	6,330	4,960	5,690	3,510
18	3,440	9,630	6,680	6,600	8,000	11,000	24,700	5,920	6,200	3,520	4,590	3,320
19	3,210	8,810	6,940	6,400	8,400	12,000	24,800	6,220	6,740	6,710	4,960	2,980
20	4,260	9,310	7,000	6,400	8,600	12,000	23,500	6,960	5,090	6,590	5,480	2,810
21	4,210	9,290	7,200	6,400	8,800	12,000	19,300	6,530	6,030	7,280	5,770	3,470
22	4,230	9,280	7,700	6,400	9,000	11,000	17,900	7,980	6,360	6,590	5,760	3,630
23	4,150	10,400	7,000	6,400	9,400	10,000	14,800	6,560	6,570	5,080	5,700	3,390
24	4,270	7,850	7,000	6,400	9,400	9,200	13,100	9,120	6,290	5,020	5,650	3,390
25	4,070	7,000	6,800	6,400	9,600	8,600	10,900	11,700	6,430	4,660	5,600	3,230
26	4,660	5,880	6,600	6,400	9,600	8,600	10,100	23,700	6,140	3,720	4,580	3,180
27	8,530	5,390	6,400	6,400	9,600	9,000	10,200	29,200	4,420	4,750	4,910	3,030
28	12,800	7,170	6,200	6,200	9,800	9,400	9,840	23,900	4,660	4,380	4,160	4,730
29	21,100	8,060	6,200	6,200	------	9,880	9,610	21,800	5,520	4,570	4,050	5,910
30	25,700	7,290	6,200	6,200	------	11,000	10,400	15,400	5,770	4,930	3,490	6,560
31	24,000	------	6,200	6,200	------	13,000	------	13,900	------	4,950	4,530	------
TOTAL	210,650	369,660	243,420	199,000	207,600	304,280	691,250	331,500	228,160	166,460	142,700	125,490
MEAN	6,795	12,320	7,852	6,419	7,414	9,815	23,040	10,690	7,605	5,370	4,603	4,183
MAX	25,700	21,000	13,200	6,600	9,800	13,000	56,700	29,200	13,100	8,730	5,770	6,560
MIN	2,670	5,390	6,030	6,200	5,800	8,600	9,610	4,520	4,420	3,260	3,040	2,810
CFSM	.75	1.37	.87	.71	.82	1.09	2.56	1.19	.84	.60	.51	.46
IN.	.87	1.53	1.01	.82	.86	1.26	2.85	1.37	.94	.69	.59	.52

CAL YR 1970 TOTAL 2,622,290 MEAN 7,184 MAX 31,100 MIN 2,390 CFSM .80 IN 10.83
WTR YR 1971 TOTAL 3,220,170 MEAN 8,822 MAX 56,700 MIN 2,670 CFSM .98 IN 13.40

05370000 Eau Galle River at Spring Valley, Wis.

LOCATION.--Lat 44°51'10", long 92°14'17", in SE 1/4 NE 1/4 sec.6, T.27 N., R.15 W., Pierce County, on right bank, 1,500 ft upstream from Mines Creek.

DRAINAGE AREA.--64.8 sq mi.

PERIOD OF RECORD.--March 1944 to current year.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Datum of gage is mean sea level (levels by Corps of Engineers). Prior to July 31, 1957, nonrecording gage at site 850 ft downstream at datum of 912.45 ft above mean sea level. Aug. 1, 1957, to June 6, 1966, nonrecording gage at downstream site at datum of 910.45 ft above mean sea level. June 7, 1966, to Oct. 31, 1968, nonrecording gage at downstream site at datum of 909.45 ft above mean sea level.

AVERAGE DISCHARGE.--24 years (1944-68), 25.9 cfs (5.43 inches per year) prior to reservoir operation.

EXTREMES.--Current year: Maximum discharge, 1,330 cfs Oct. 27 (gage height, 916.88 ft); no flow, Aug. 11-15 (gage height, 911.50 ft).

Period of record: Maximum discharge, 7,000 cfs Apr. 15, 1954 (gage height, 12.50 ft, datum then in use); no flow Aug. 11-15, 1971, flow shut off at flood-control dam upstream; minimum observed prior to dam construction period, 5.8 cfs Sept. 25, 27, 28, 30, 1949.

Maximum stage known since at least 1894, 19.98 ft Sept. 18, 1942, with datum at 909.45 ft above mean sea level, from floodmarks (discharge, 33,000 cfs estimated by Corps of Engineers on basis of slope-area measurement by Geological Survey of peak discharge of 39,000 cfs at Elmwood, drainage area, 91.9 sq mi).

REMARKS.--Records good. Flow regulated by flood-control dam 766 ft upstream.

REVISIONS (WATER YEARS).--1967 Water Resources Data for Wisconsin: 1966.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	57	24	15	12	13	718	18	16	36	13	14
2	11	90	43	15	12	12	155	17	15	26	12	14
3	10	616	37	14	12	12	93	16	15	20	12	13
4	8.5	199	29	15	13	12	67	19	15	16	12	14
5	9.4	80	22	14	14	12	73	20	14	15	12	15
6	10	51	20	14	14	12	177	21	14	17	21	13
7	11	38	18	14	13	12	325	19	16	19	49	12
8	21	33	19	14	12	12	364	16	17	67	47	12
9	578	330	18	14	12	12	240	15	15	61	40	20
10	391	311	17	14	12	12	138	15	15	39	12	17
11	87	98	18	14	12	12	93	15	19	29	1.9	15
12	41	85	17	14	12	12	76	15	26	22	0	14
13	28	70	17	14	12	12	55	14	23	15	0	13
14	19	69	16	14	12	14	43	14	19	15	0	12
15	16	38	16	13	12	25	35	14	16	17	0	11
16	15	34	16	13	12	24	31	14	15	15	0	11
17	14	32	16	14	12	31	29	14	15	15	12	11
18	14	28	16	13	12	53	28	15	15	17	9.7	11
19	14	27	15	13	14	60	28	21	22	20	10	11
20	13	27	15	13	13	39	27	63	26	16	19	11
21	13	23	15	13	12	36	24	53	26	15	15	11
22	13	35	16	13	12	38	22	33	20	17	12	12
23	13	20	16	14	12	30	21	37	16	14	11	15
24	30	25	15	13	12	27	19	20	18	13	12	13
25	40	24	15	14	12	25	19	16	20	14	12	12
26	50	25	15	13	13	26	18	73	22	14	11	12
27	718	26	15	13	15	26	19	45	17	14	11	13
28	158	22	15	13	12	26	21	31	15	14	11	14
29	69	20	15	13	------	129	20	22	16	14	11	14
30	46	20	15	13	------	293	19	20	33	15	11	17
31	49	------	14	12	------	563	------	18	------	14	12	------
TOTAL	2,518.9	2,596	575	422	349	1,605	2,997	733	560	655	411.6	397
MEAN	81.3	86.5	18.5	13.6	12.5	51.8	99.9	23.6	18.7	21.1	13.3	13.2
MAX	718	616	43	15	15	563	718	73	33	67	49	20
MIN	8.5	20	14	12	12	12	18	14	14	13	0	11
CFSM	1.25	1.33	.29	.21	.19	.80	1.54	.36	.28	.33	.21	.20
IN.	1.45	1.49	.33	.24	.20	.92	1.72	.42	.32	.38	.24	.23

CAL YR 1970 TOTAL 12,612.3 MEAN 34.6 MAX 929 MIN 8.5 CFSM .53 IN 7.24
WTR YR 1971 TOTAL 13,798.5 MEAN 37.8 MAX 718 MIN 0 CFSM .58 IN 7.92

Reservoirs in Chippewa River Basin

The six reservoirs listed below are used to stabilize the flow of the Chippewa, Flambeau, and Red Cedar Rivers for power utilization, and are also used for recreational purposes. The first four are operated by Chippewa-Flambeau Improvement Co. The remaining two are operated by the Northern States Power Co., which also furnishes the gage heights and capacity tables for all the above reservoirs. Month-end contents are computed by the Geological Survey. The usable capacity of these reservoirs is usually less in summer than in winter, because the allowable summer drawdown is limited by the Department of Natural Resources in the interest of riparian property owners. There are occasionally formal or informal changes in capacity and in minimum drawdown levels. Usable capacity figures listed below are for winter regulation.

05355400 Moose Lake on West Fork Chippewa River, lat 46°02'00", long 91°04'32", in NE 1/4 sec.14, T.41 N., R.6 W., Sawyer County, 15.0 miles north of Winter, Wis., completed in 1893, has a usable capacity of 400,000,000 cu ft. Drainage area, 225 sq mi. Datum of gage is at mean sea level (Northern States Power Co. bench mark).

05355600 Lake Chippewa on Chippewa River, lat 45°53'20", long 91°04'40", in SE 1/4 sec.2, T.39 N., R.6 W., Sawyer County, 3.2 miles upstream from Geological Survey river-gaging station, 5.5 miles northwest of Winter, Wis., completed in 1923, has a usable capacity of 10,000,000,000 cu ft. Drainage area, 775 sq mi. Datum of gage is at mean sea level (Northern States Power Co. bench mark).

05357300 Rest Lake on Manitowish River, lat 46°08'20", long 89°53'05", in NW 1/4 sec.9, T.42 N., R.5 E., Vilas County, 6.2 miles east of Manitowish, Wis., used as a reservoir since 1887, has a capacity of 660,000,000 cu ft between gage heights 105.00 ft and 108.50 ft. This reservoir includes nine lakes controlled by the same dam. Drainage area, 243 sq mi. Altitude of gage is 1,600 ft (by U.S. Geological Survey topographic map).

05357400 Flambeau Flowage on North Fork Flambeau River, lat 46°04'13", long 90°13'23", in SE 1/4 sec.34, T.42 N., R.2 E., Iron County, 0.5 mile upstream from discontinued Geological Survey river-gaging station, 10.2 miles southwest of Mercer, Wis., completed in 1926, has a usable capacity of 5,895,000,000 cu ft. Drainage area, 666 sq mi. Datum of gage is at mean sea level (Northern States Power Co. bench mark).

05364200 Lake Wissota on Chippewa River, lat 44°56'18", long 91°20'27", in NW 1/4 sec.3, T.28 N., R.8 W., Chippewa County, 2.0 miles east of Chippewa Falls, Wis., city limits, completed in 1917, has a usable capacity of 3,547,000,000 cu ft. Drainage area, 5,548 sq mi. Datum of gage is at mean sea level (Northern States Power Co. bench mark).

05367200 Red Cedar Lake on Red Cedar River, lat 45°35'22", long 91°36'07", on line between secs.21 and 22, T.36 N., R.10 W., Barron County, at south edge of Mikana, Wis., used as a reservoir since 1882, has a usable capacity of 577,000,000 cu ft. Drainage area, 161 sq mi. Altitude of gage is 1,080 ft (Northern States Power Co.). Discontinued.

Month-end contents, in millions of cubic feet, water year October 1970 to September 1971

Date	Moose Lake	Lake Chippewa	Rest Lake	Flambeau Flowage	Lake Wissota	Red Cedar Lake
Sept. 30..........	421	8,171	750	3,094	3,898	602
Oct. 31...........	206	9,784	435	3,714	3,952	639
Nov. 30...........	35	9,280	350	4,584	3,817	577
Dec. 31...........	5	7,040	350	4,476	3,852	370
Jan. 21...........	5	4,500	350	3,530	3,874	334
Feb. 28...........	20	825	350	2,471	2,438	334
Mar. 31...........	55	1,436	350	1,206	412	287
Apr. 30...........	337	8,468	655	5,382	3,954	241
May 31...........	393	10,114	1,029	5,900	4,027	614
June 30...........	386	9,568	991	5,493	3,868	-
July 31...........	393	9,246	973	4,656	3,890	-
Aug. 31...........	393	8,906	973	4,196	3,911	-
Sept. 30..........	400	8,804	918	4,347	3,898	-

05378500 Mississippi River at Winona, Minn.

LOCATION.--Lat 44°03'20", long 91°38'15", in sec.23, T.107 N., R.7 W., Winona County, on right bank at Winona pumping station in Winona, 9.5 miles upstream from Trempealeau River and at mile 725.7 upstream from the Ohio River.

DRAINAGE AREA.--59,200 sq mi, approximately.

PERIOD OF RECORD.--June 1928 to current year. Gage-height records collected in this vicinity since 1878 are contained in reports of Mississippi River Commission.

GAGE.--Water-stage recorder. Datum of gage is 639.64 ft above mean sea level, datum of 1929. June 10, 1928, to Apr. 15, 1931, nonrecording gage at site 800 ft upstream. Prior to Oct. 1, 1929, at datum 0.20 ft higher and Oct. 1, 1929, to Apr. 15, 1931, at datum 0.12 ft lower. Apr. 16, 1931, to Nov. 12, 1934, nonrecording gage at present site and datum. Since Mar. 31, 1937, auxiliary water-stage recorder 2.7 miles upstream at tailwater of navigation dam 5A.

AVERAGE DISCHARGE.--43 years, 25,420 cfs (5.83 inches per year).

EXTREMES.--Current year: Maximum discharge, 133,000 cfs Apr. 17 (gage height, 14.35 ft); minimum daily, 8,100 cfs Oct. 2.

Period of record: Maximum discharge, 268,000 cfs Apr. 19, 1965 (gage height, 20.77 ft, from floodmark); minimum, 2,250 cfs Dec. 29, 1933 (gage height, -1.18 ft); minimum gage height, -3.38 ft Aug. 31, 1934.

REMARKS.--Records good. Records of chemical analyses for the current year are published in Part 2 of this report. Some regulation by reservoirs, navigation dams, and powerplants at low and medium stages. Flood flow not materially affected by artificial storage.

REVISIONS.--WSP 700: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9,280	36,900	30,400	19,200	16,400	21,100	64,900	58,400	56,400	30,000	17,500	12,000
2	8,100	39,400	35,600	20,700	15,100	22,000	69,900	58,100	54,700	28,700	18,400	14,000
3	8,810	41,100	36,800	21,200	14,100	21,700	74,300	57,500	52,300	28,500	16,900	14,900
4	9,740	40,200	32,500	21,000	14,300	20,500	76,200	57,300	49,900	30,200	17,000	15,600
5	10,500	39,200	32,500	20,600	15,200	22,200	74,000	57,400	46,600	31,700	15,000	16,700
6	11,200	39,000	23,900	17,200	15,000	23,000	73,400	57,000	46,300	30,800	13,800	14,400
7	10,800	39,600	21,200	17,000	14,800	23,000	73,200	54,900	46,000	31,200	14,000	13,300
8	12,600	39,300	14,500	16,700	14,800	21,900	73,200	54,200	45,900	33,000	14,500	12,600
9	20,900	40,800	18,500	16,800	14,700	19,400	74,300	52,800	42,800	35,100	14,200	16,600
10	31,000	41,700	21,100	16,900	14,700	18,600	75,900	50,800	42,000	34,900	12,700	16,600
11	29,000	40,900	25,600	16,900	15,000	18,400	79,200	48,600	41,600	33,400	12,300	17,700
12	22,000	45,000	29,100	16,600	15,400	19,500	84,000	45,600	41,400	32,200	12,500	17,200
13	25,200	48,900	29,400	15,500	16,500	21,200	92,700	43,500	42,100	31,700	12,400	13,300
14	25,400	49,200	31,000	15,700	16,500	24,500	107,000	42,000	45,200	32,300	13,200	11,400
15	25,300	50,900	31,600	15,800	16,400	27,100	120,000	37,800	44,100	32,000	14,400	11,900
16	24,400	52,100	32,000	15,900	16,300	33,200	128,000	34,700	40,400	29,500	12,900	12,700
17	22,500	52,900	32,100	15,900	17,600	39,000	132,000	33,200	39,800	28,900	13,300	13,000
18	22,600	54,100	35,100	15,900	18,500	38,500	129,000	32,500	40,400	29,100	14,600	12,100
19	20,500	53,200	33,500	16,000	20,200	42,000	123,000	32,100	39,300	28,100	15,900	11,400
20	17,700	51,900	29,000	16,000	20,600	42,800	114,000	30,500	40,200	26,700	17,300	11,600
21	17,900	48,600	26,400	16,000	19,800	44,100	106,000	28,800	39,800	26,300	16,900	9,580
22	18,000	46,100	21,500	16,100	16,600	45,400	98,800	28,500	38,800	26,300	15,900	8,900
23	16,200	43,000	20,700	16,000	15,600	44,500	91,000	29,000	36,900	25,800	17,000	9,290
24	17,400	36,600	20,600	16,100	17,300	46,700	84,000	35,200	34,500	24,800	16,900	11,400
25	21,500	39,800	20,000	16,200	18,400	48,800	79,200	39,500	35,100	24,600	16,800	11,900
26	19,300	34,200	18,500	16,200	18,000	49,400	72,700	40,700	35,200	23,500	16,500	11,500
27	20,200	27,700	17,900	16,300	19,800	55,500	67,000	45,800	32,700	19,400	16,200	12,700
28	23,100	25,600	17,700	16,800	20,000	54,800	65,400	52,300	31,100	19,300	14,500	13,100
29	33,000	27,100	16,200	16,600	------	54,300	63,000	56,200	30,100	21,100	12,900	14,700
30	31,200	29,100	15,300	16,500	------	57,600	60,400	57,200	30,000	20,500	12,500	16,300
31	33,300	------	17,200	16,600	------	61,400	------	57,300	------	18,300	10,400	------
TOTAL	618,630	1,254.1M	787,400	526,900	469,600	1,082.1M	2,625.7M	1,409.4M	1,241.6M	867,900	460,300	398,370
MEAN	19,960	41,800	25,400	17,000	16,770	34,910	87,520	45,460	41,390	28,000	14,850	13,280
MAX	33,300	54,100	36,800	21,200	20,600	61,400	132,000	58,400	56,400	35,100	18,400	17,700
MIN	8,100	25,600	14,500	15,500	14,100	18,400	60,400	28,500	30,000	18,300	10,400	8,900
CFSM	.34	.71	.43	.29	.28	.59	1.48	.77	.70	.47	.25	.22
IN.	.39	.79	.49	.33	.30	.68	1.65	.89	.78	.55	.29	.25

CAL YR 1970 TOTAL 9,289,840 MEAN 25,450 MAX 63,600 MIN 6,700 CFSM .43 IN 5.86
WTR YR 1971 TOTAL 11,742,000 MEAN 32,170 MAX 132,000 MIN 8,100 CFSM .54 IN 7.38

05379400 Trempealeau River at Arcadia, Wis.

LOCATION.--Lat 44°15'15", long 91°30'25", in SW 1/4 sec.32, T.21 N., R.9 W., Trempealeau County, near right bank on downstream side of bridge on State Highway 93 and 95 in Arcadia, 0.5 mile downstream from Turton Creek.

DRAINAGE AREA.--552 sq mi.

RECORDS AVAILABLE.--July 1960 to current year.

GAGE.--Nonrecording gage and crest-stage gage. Datum of gage is 719.61 ft above mean sea level.

AVERAGE DISCHARGE.--11 years, 342 cfs (8.41 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,200 cfs Apr. 1 (gage height, 5.41 ft); minimum daily, 230 cfs Jan. 1-9, Feb. 8.

Period of record: Maximum discharge, 9,740 cfs Apr. 6, 1965 (gage height, 7.15 ft, from graph based on gage readings) from rating curve extended above 7,000 cfs; maximum gage height observed, 8.04 ft Mar. 2, 1965 (backwater from ice); minimum discharge observed, 110 cfs Aug. 8, 9, 19, 1964.

REMARKS.--Records good except those for winter periods, which are fair.

REVISIONS (WATER YEARS).--WRD Wis. 1970: 1968, 1969.

Rating table (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 24-30, Dec. 6 to Mar. 15.)

Oct. 1 to Mar. 31				Apr. 1 to Sept. 30			
1.0	225	3.0	979	1.2	227	4.0	1,390
1.4	365	4.0	1,400	1.5	315	5.0	1,930
2.0	585	5.0	1,930	2.0	490	6.0	2,820
				3.0	920		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	298	445	409	230	250	330	2,070	425	422	312	536	270
2	284	445	488	230	250	330	1,720	400	433	297	444	270
3	264	547	445	230	250	330	1,180	371	448	291	371	264
4	253	834	424	230	250	340	902	437	433	279	339	273
5	253	645	395	230	250	340	844	651	422	279	327	282
6	250	554	323	230	240	340	803	520	410	279	321	267
7	255	478	340	230	240	340	970	448	471	279	315	255
8	344	445	360	230	230	340	1,080	403	594	276	309	255
9	474	496	370	230	240	350	1,110	389	490	410	306	371
10	510	657	370	250	250	350	1,010	385	448	324	309	731
11	380	547	360	260	260	380	839	382	422	300	309	590
12	337	481	350	280	260	500	726	375	414	291	303	486
13	309	456	330	280	270	660	647	365	403	318	297	382
14	302	445	310	280	280	900	581	365	389	285	700	358
15	288	434	300	280	290	1,300	544	371	382	282	565	352
16	281	402	310	270	290	963	513	368	375	270	422	342
17	281	409	310	270	290	806	602	368	385	264	371	324
18	274	409	320	260	290	747	544	389	371	285	327	315
19	270	562	320	260	300	680	513	463	355	708	309	312
20	267	445	300	260	310	607	553	501	505	590	306	324
21	264	503	280	260	320	574	498	482	400	392	294	339
22	274	528	270	270	320	561	463	403	371	330	288	333
23	274	373	280	270	330	495	441	626	348	306	291	348
24	330	360	270	260	330	499	433	1,080	352	300	267	368
25	402	350	260	260	330	477	422	1,200	342	294	261	365
26	452	350	250	260	320	470	414	816	333	282	264	358
27	818	350	250	250	320	452	407	651	318	279	261	414
28	866	360	250	250	330	720	505	520	318	452	261	540
29	688	360	240	250	------	1,040	505	463	327	385	255	471
30	540	380	240	250	------	1,130	452	441	327	601	255	498
31	514	------	240	250	------	1,410	------	426	------	731	261	------
TOTAL	11,594	14,050	9,964	7,850	7,890	18,741	22,291	15,484	12,008	10,971	10,444	11,057
MEAN	374	469	321	253	282	605	743	499	400	354	337	369
MAX	866	834	488	280	330	1,410	2,070	1,200	594	731	700	731
MIN	250	350	240	230	230	330	407	365	318	264	255	255
CFSM	.68	.85	.58	.46	.51	1.10	1.35	.90	.72	.64	.61	.67
IN.	.78	.95	.67	.53	.53	1.26	1.50	1.04	.81	.74	.70	.75

CAL YR 1970 TOTAL 128,046 MEAN 351 MAX 2,240 MIN 180 CFSM .64 IN 8.63
WTR YR 1971 TOTAL 152,344 MEAN 417 MAX 2,070 MIN 230 CFSM .76 IN 10.27

05379500 Trempealeau River at Dodge, Wis.

LOCATION.--Lat 44°07'55", long 91°33'14", in SE 1/4 sec.10, T.19 N., R.10 W., on Trempealeau County line, near left bank on downstream side of highway bridge in Dodge, 9.0 miles upstream from mouth.

DRAINAGE AREA.--643 sq mi.

PERIOD OF RECORD.--December 1913 to September 1919, April 1934 to current year.

GAGE.--Nonrecording gage and crest-stage gage. Datum of gage is 661.42 ft above mean sea level. Prior to Oct. 1, 1966, datum 2.00 ft higher.

AVERAGE DISCHARGE.--42 years (1914-19, 1934-71), 390 cfs (8.24 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,170 cfs Apr. 4 (gage height, 7.59 ft); minimum daily, 240 cfs Jan. 3-6.

Period of record: Maximum discharge, 17,400 cfs Apr. 4, 1956 (gage height, 10.35 ft); minimum daily, 98 cfs Jan. 10, 1938.

REMARKS.--Records good except those for winter periods, which are fair.

COOPERATION.--Gage-height record collected in cooperation with Corps of Engineers.

REVISIONS (WATER YEARS).--WSP 1238: Drainage area. WSP 1388: 1919(M). WSP 1438: 1914, 1915-18(M), 1934-44(M), 1946-49(M).

Rating table (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 25-30, Dec. 7 to Mar. 23.)

2.1	240	5.0	1,065
2.5	310	6.0	1,450
3.0	430	8.0	2,440
4.0	720		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	306	549	533	250	290	370	1,570	513	470	342	651	300
2	317	525	513	250	290	380	1,760	516	483	325	582	296
3	314	569	504	240	280	390	2,050	477	486	319	452	292
4	304	897	465	240	280	390	1,950	486	463	312	407	302
5	292	939	448	240	280	390	1,120	499	442	310	382	332
6	277	720	387	240	280	390	985	681	420	314	361	328
7	279	687	380	250	270	390	1,030	579	442	366	356	317
8	283	504	400	250	280	390	1,130	495	579	669	349	306
9	342	490	410	260	280	390	1,190	457	549	413	339	356
10	636	690	420	270	280	400	1,210	438	477	388	334	597
11	598	548	400	290	290	470	1,100	422	438	378	358	747
12	657	620	390	300	300	460	904	410	417	351	346	551
13	332	580	360	310	300	600	782	405	413	395	361	445
14	370	520	350	310	310	780	699	390	388	390	388	388
15	336	477	340	310	320	1,100	674	388	363	346	702	361
16	319	455	330	310	320	1,290	609	385	373	329	536	349
17	309	445	340	310	320	1,450	642	361	349	317	450	351
18	300	435	350	300	330	1,100	657	405	370	314	382	332
19	304	440	340	300	340	700	600	477	351	470	375	330
20	302	525	330	300	350	680	596	543	672	686	344	344
21	292	477	310	300	360	640	575	522	432	486	337	351
22	300	471	300	300	370	600	540	507	392	427	332	363
23	302	542	300	300	380	570	504	425	363	388	321	368
24	327	366	300	300	380	540	490	999	356	363	317	378
25	413	370	290	290	370	522	465	1,390	363	337	312	375
26	442	370	290	290	370	507	455	1,300	358	332	308	365
27	483	390	280	280	370	497	448	976	349	321	308	370
28	985	410	290	280	370	504	510	681	325	457	302	551
29	915	440	270	280	------	971	507	576	339	504	300	492
30	666	570	270	280	------	1,000	548	522	358	672	298	542
31	636	------	260	290	------	1,370	------	486	------	897	298	------
TOTAL	12,831	16,076	11,115	8,720	8,960	20,246	26,232	17,811	12,578	12,915	11,888	11,778
MEAN	414	536	359	281	320	653	874	575	419	417	383	393
MAX	985	939	533	310	380	1,450	2,050	1,390	672	897	702	747
MIN	277	366	260	240	270	370	448	361	325	310	298	292
CFSM	.64	.83	.56	.44	.50	1.02	1.37	.89	.65	.65	.60	.61
IN.	.74	.93	.64	.50	.52	1.17	1.52	1.03	.73	.75	.69	.68

CAL YR 1970 TOTAL 140,521 MEAN 385 MAX 2,440 MIN 200 CFSM .60 IN 8.13
WTR YR 1971 TOTAL 171,150 MEAN 469 MAX 2,050 MIN 240 CFSM .73 IN 9.91

05381000 Black River at Neillsville, Wis.

LOCATION.--Lat 44°33'35", long 90°36'54", in sec.15, T.24 N., R.2 W., Clark County, on right bank at downstream side of bridge on U.S. Highway 10 in Neillsville, 1.0 mile downstream from O'Neill Creek, and 2.6 miles upstream from Cunningham Creek.

DRAINAGE AREA.--756 sq mi.

PERIOD OF RECORD.--April 1905 to March 1909, October 1913 to current year. Monthly discharge only for some periods, published in WSP 1308.

GAGE.--Water-stage recorder. Datum of gage is 962.77 ft above mean sea level (levels by U.S. Weather Bureau). Prior to Oct. 24, 1934, nonrecording gage.

AVERAGE DISCHARGE.--61 years (1905-8, 1913-71), 572 cfs (10.27 inches per year).

EXTREMES.--Current year: Maximum discharge, 14,900 cfs Apr. 10 (gage height, 14.01 ft); minimum, 33 cfs Aug. 13.

Period of record: Maximum discharge, 48,800 cfs Sept. 10, 1938 (gage height, 23.8 ft); minimum, 0.6 cfs Aug. 15, 1936 (gage height, 1.84 ft).

REMARKS.--Records good except those for winter periods, which are fair.

REVISIONS (WATER YEARS).--WSP 805: Drainage area. WSP 1308: 1914. WSP 1438: 1905, 1906-8(M), 1914-17(M), 1918-19, 1920-25(M), 1926-27, 1928-29(M), 1930, 1931(M), 1932, 1933(M), 1934, 1935(M), 1936. WSP 1508: 1950.

Rating table (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 29 to Apr. 8.)

2.5	27	4.0	401	10	6,760
2.7	50	5.0	870	12	10,600
3.0	101	6.0	1,520	14	15,100
3.5	226	8.0	3,520		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	184	1,740	700	110	94	180	3,800	811	389	84	76	40
2	151	1,460	2,000	110	94	180	2,900	706	340	82	62	40
3	125	2,950	2,500	110	94	170	2,300	585	301	75	55	39
4	107	3,430	1,700	110	96	170	2,100	571	312	70	51	45
5	95	2,640	1,000	110	98	170	2,400	639	264	67	49	53
6	87	1,780	520	110	100	170	3,000	564	212	63	46	53
7	81	1,160	420	100	100	170	4,500	467	253	59	43	50
8	80	853	310	100	100	170	7,800	378	512	79	40	47
9	90	1,240	260	100	100	170	12,200	314	976	72	37	70
10	104	2,270	230	100	100	160	14,000	267	860	69	40	532
11	120	1,790	200	100	98	170	11,400	232	637	68	40	250
12	137	1,320	180	100	98	190	9,410	205	445	67	37	202
13	153	975	170	100	96	220	7,070	182	437	73	37	153
14	144	795	160	100	96	340	5,360	165	374	66	358	118
15	127	642	150	100	96	440	3,830	152	282	62	222	94
16	114	517	140	98	96	580	2,730	136	217	59	133	77
17	104	428	130	98	96	680	2,390	126	245	60	190	66
18	106	385	120	98	98	600	2,160	149	184	62	145	58
19	92	379	120	98	100	580	1,680	328	192	231	117	56
20	87	1,550	110	96	110	560	1,550	276	195	284	99	60
21	83	1,890	110	96	130	540	1,240	297	179	264	83	58
22	83	1,530	110	94	130	520	962	319	182	211	75	58
23	93	851	110	94	130	500	756	291	224	157	68	70
24	315	392	110	94	140	490	605	2,220	224	118	62	71
25	789	385	110	94	140	490	486	4,160	175	95	63	70
26	1,170	424	110	92	150	490	403	3,700	140	80	58	69
27	3,230	341	110	92	160	600	364	2,660	120	71	54	349
28	5,160	304	110	92	170	1,000	563	1,770	107	77	49	375
29	4,790	310	110	92	------	2,000	832	1,130	96	68	45	202
30	3,460	320	110	92	------	2,600	875	741	88	108	42	177
31	2,350	------	110	94	------	3,100	------	522	------	95	40	------
TOTAL	23,805	35,051	12,430	3,074	3,110	18,400	109,866	25,063	9,162	3,096	2,516	3,602
MEAN	768	1,168	401	99.2	111	594	3,662	808	305	99.9	81.2	120
MAX	5,160	3,430	2,500	110	170	3,100	14,000	4,160	976	284	358	532
MIN	80	304	110	92	94	160	364	126	88	59	37	39
CFSM	1.02	1.55	.53	.13	.15	.79	4.84	1.07	.40	.13	.11	.16
IN.	1.17	1.72	.61	.15	.15	.91	5.41	1.23	.45	.15	.12	.18

CAL YR 1970 TOTAL 209,467 MEAN 574 MAX 7,500 MIN 23 CFSM .76 IN 10.31
WTR YR 1971 TOTAL 249,175 MEAN 683 MAX 14,000 MIN 37 CFSM .90 IN 12.26

PEAK DISCHARGE (BASE, 5,000 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
10-28	1700	9.56	5,970	4-10	0200	14.01	14,900

05382000 Black River near Galesville, Wis.

LOCATION.--Lat 44°03'42", long 91°17'30", in SE 1/4 sec.2, T.18 N., R.8 W., La Crosse County, on left bank 30 ft downstream from bridge on U.S. Highway 53, 4.5 miles southeast of Galesville, and 5.0 miles downstream from Fleming Creek.

DRAINAGE AREA.--2,120 sq mi, approximately.

PERIOD OF RECORD.--December 1931 to current year.

GAGE.--Water-stage recorder. Datum of gage is 658.43 ft above mean sea level, unadjusted. Prior to Apr. 2, 1941, nonrecording gage on bridge 30 ft upstream at same datum.

AVERAGE DISCHARGE.--39 years (1932-71), 1,638 cfs (10.49 inches per year).

EXTREMES.--Current year: Maximum discharge, 19,200 cfs Apr. 11 (gage height, 12.43 ft); minimum daily, 520 cfs Sept. 6.

Period of record: Maximum discharge, 65,500 cfs Apr. 1, 1967 (gage height, 14.63 ft); minimum observed, 180 cfs Dec. 20, 1932.

REMARKS.--Records good except those for winter periods and partially obstructed intake, which are fair. Flow partly regulated by Hatfield Dam powerplant where drainage area is 1,290 sq mi and storage capacity is 272 million cubic feet. Water diverted periodically from the basin into the Lemonweir River basin for cranberry culture. Records of chemical analyses for the water year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1438: 1932-34, 1935-36 (M).

Rating table (gage height, in feet, and discharge, in cubic feet per second). (Shifting-control method used Aug. 4 to Sept. 30; stage-discharge relation affected by ice Dec. 6 to Mar. 28.)

Oct. 1 to Apr. 11				Apr. 12 to Sept. 30			
1.0	320	6.0	5,150	1.0	240	8.0	7,400
2.0	860	9.0	9,600	2.0	690	10.0	10,700
4.0	2,860	11.0	14,300	4.0	2,300	12.0	16,800
		12.0	16,800	6.0	4,650		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	910	5,470	1,380	660	620	920	6,010	2,200	2,060	700	760	560
2	868	3,530	1,630	660	560	960	7,600	2,320	1,830	660	700	580
3	840	3,210	3,690	580	600	980	11,400	2,130	1,860	640	660	560
4	806	3,650	3,880	560	600	980	12,100	2,023	1,700	620	620	540
5	625	5,110	4,010	560	600	960	9,760	1,970	1,480	600	600	560
6	604	5,660	3,500	580	600	960	7,610	2,213	1,340	600	600	520
7	734	4,920	3,100	620	600	960	7,010	2,240	1,180	580	620	540
8	695	3,610	2,700	660	580	960	7,590	1,900	1,220	580	660	540
9	734	2,550	2,400	680	560	960	9,890	1,810	1,470	740	640	580
10	716	2,690	2,200	680	580	960	14,700	1,710	1,470	640	660	560
11	675	3,760	2,000	680	600	960	18,300	1,490	1,490	600	620	700
12	890	4,030	2,000	620	640	960	17,900	1,340	1,470	580	580	780
13	1,960	3,530	1,900	620	660	980	15,000	1,200	1,530	580	580	760
14	2,130	2,980	1,600	660	680	960	12,700	1,220	1,220	640	600	760
15	1,800	2,650	1,300	700	660	1,100	9,020	1,170	985	580	680	740
16	1,500	2,270	1,400	700	660	1,300	7,690	936	1,170	560	896	720
17	1,200	2,070	1,500	700	660	1,500	5,740	931	1,100	560	1,050	660
18	1,000	1,920	1,500	680	680	2,000	4,680	980	1,020	560	842	620
19	960	1,970	1,500	620	700	2,900	4,620	1,190	985	800	938	720
20	720	2,020	1,200	660	720	3,700	4,400	1,310	963	1,500	920	700
21	606	2,280	1,000	680	740	3,500	4,210	1,780	931	2,300	860	560
22	622	3,590	940	680	760	3,200	3,020	1,790	873	1,400	800	600
23	629	3,740	880	680	740	2,900	2,350	1,660	978	1,100	720	680
24	696	3,660	940	680	720	2,600	2,190	2,050	880	1,000	620	680
25	762	5,720	900	640	720	2,400	2,030	2,710	901	870	600	660
26	811	5,770	820	580	720	2,400	1,840	5,230	971	680	620	700
27	1,390	5,400	760	600	740	2,100	1,590	7,720	887	640	600	700
28	2,500	4,420	660	640	780	2,600	1,500	8,230	838	620	580	860
29	4,430	2,190	600	640	------	3,180	1,560	6,720	818	740	540	1,600
30	5,560	1,360	640	640	------	4,170	1,890	4,210	720	1,000	560	1,900
31	6,460	------	660	640	------	5,120	------	3,790	------	760	560	------
TOTAL	44,653	105,590	52,870	19,980	18,420	58,790	215,800	76,807	36,880	24,383	21,284	21,520
MEAN	1,440	3,520	1,705	645	658	1,896	7,193	2,478	1,229	786	687	717
MAX	6,460	5,770	4,010	700	780	5,120	18,300	8,230	2,060	2,300	1,050	1,900
MIN	604	1,360	600	560	560	920	1,500	931	720	560	540	520
CFSM	.68	1.66	.80	.30	.31	.89	3.39	1.17	.58	.37	.32	.34
IN.	.78	1.85	.93	.35	.32	1.03	3.79	1.35	.65	.43	.37	.38

CAL YR 1970 TOTAL 554,667 MEAN 1,520 MAX 14,100 MIN 355 CFSM .72 IN 9.73
WTR YR 1971 TOTAL 696,974 MEAN 1,910 MAX 18,300 MIN 520 CFSM .90 IN 12.23

NOTE.--Partially obstructed intake Oct. 15-20, June 29 to Sept. 30.

05389500 Mississippi River at McGregor, Iowa

LOCATION.--Lat 43°01'29", long 91°10'21", in SE 1/4 SE 1/4 sec.22, T.95 N., R.3 W., Clayton County, on right bank in city park at east end of Main Street in McGregor, 2.6 miles upstream from Wisconsin River, 4.3 miles downstream from Yellow River, and at mile 633.4 upstream from Ohio River.

DRAINAGE AREA.--67,500 sq mi, approximately.

PERIOD OF RECORD.--August 1936 to current year.

GAGE.--Water-stage recorder. Datum of gage is 605.30 ft above mean sea level, adjustment of 1912. Pior to June 1, 1937, and since June 2, 1939, auxiliary water-stage recorder; June 1, 1937, to July 1, 1939, auxiliary nonrecording gage 14.1 miles upstream in tailwater od dam 9, at datum 5.30 ft lower.

AVERAGE IDSCHARGE.--35 years, 32,710 cfs (6.58 inches per year, 23,700,000 acre-ft per year).

EXTREMES.--Current year: Maximum daily discharge, 138,000 cfs Apr. 20; maximum gage height, 17.67 ft Apr. 19; minimum daily discharge, 10,400 cfs Sept. 23; minimum gage height, 5.93 ft Sept. 1
Period of record: Maximum daily discharge, 276,000 cfs Apr. 24, 1965; maximum gage height, 25.38 ft Apr. 24, 1965; minimum daily discharge, 6,200 cfs Dec. 9, 1936; minimum gage height, -0.86 ft Aug. 18, 1936.
Maximum stage since at least 1828, that of Apr. 24, 1965.

REMARKS.--Records good except those for winter period, which are fair. Stage-discharge relation affected by backwater from Wisconsin River and Dam 10. Flow regulated by reservoirs and navigation dams.

COOPERATION.--Gage height record at Dam 9 collected in cooperation with Corps of Engineers.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13,300	41,700	44,600	21,000	19,500	25,000	79,900	80,200	70,700	33,800	21,500	12,800
2	11,000	44,100	47,700	21,000	20,000	25,000	85,200	76,400	71,200	31,800	20,700	13,800
3	12,100	48,200	44,900	21,000	19,000	25,000	90,200	72,800	69,600	31,500	19,900	17,500
4	12,300	50,100	42,000	24,000	17,000	25,300	94,100	69,400	65,400	31,300	18,200	19,700
5	11,900	50,600	40,600	26,000	17,000	26,000	97,100	68,100	60,700	32,100	17,900	20,400
6	13,300	47,800	30,300	24,000	17,200	29,000	99,000	66,900	57,000	33,400	18,100	21,400
7	13,700	47,000	24,600	23,000	17,300	32,000	98,900	66,400	54,300	33,800	18,300	20,700
8	16,600	47,000	22,700	21,000	17,500	30,000	99,400	65,300	53,300	35,300	18,300	19,300
9	23,700	47,200	21,500	20,000	17,600	27,500	96,200	63,600	50,900	37,000	17,600	19,000
10	32,600	49,500	23,000	20,600	17,800	26,000	96,900	62,000	48,700	37,500	16,600	20,200
11	38,200	49,400	24,000	20,000	18,000	25,000	97,400	59,900	47,800	38,500	16,600	21,400
12	38,900	48,600	26,000	20,000	19,000	24,800	99,200	55,600	46,800	37,200	17,100	21,100
13	31,200	47,200	28,000	20,000	18,800	25,000	102,000	51,700	47,300	38,200	15,900	22,300
14	30,400	49,800	33,000	19,000	18,800	32,000	105,000	49,000	47,800	37,800	15,200	21,300
15	29,600	53,800	32,000	18,000	18,800	35,000	110,000	45,300	47,700	37,000	15,600	18,400
16	30,000	55,300	33,000	18,500	18,800	39,000	117,000	43,400	45,300	35,600	16,300	15,900
17	29,200	55,200	35,000	18,500	20,000	41,500	124,000	38,300	43,100	34,700	18,400	17,000
18	28,200	55,700	36,000	18,500	21,000	44,500	131,000	36,700	42,400	33,900	19,800	16,900
19	26,000	56,700	37,000	18,500	22,000	54,000	136,000	40,600	42,600	32,600	21,900	16,500
20	21,300	58,000	38,000	18,500	23,000	56,000	138,000	40,600	44,900	31,700	24,500	16,000
21	19,400	57,000	36,000	18,800	26,000	54,000	137,000	39,200	45,900	31,700	23,700	13,700
22	18,300	58,100	33,000	19,000	25,000	58,000	132,000	36,300	45,600	30,800	22,600	11,200
23	18,300	51,400	29,000	19,500	24,000	57,000	127,000	34,200	44,700	30,800	20,300	10,400
24	19,900	39,300	27,000	20,000	22,000	56,000	120,000	37,000	42,100	31,300	20,600	12,700
25	23,600	38,700	24,000	21,000	21,000	58,000	114,000	44,600	40,500	30,600	20,300	13,400
26	28,100	38,900	23,000	20,700	23,000	59,100	108,000	47,300	37,700	29,700	19,600	12,800
27	26,800	35,800	23,000	20,500	25,000	58,400	102,000	50,000	37,400	27,100	19,700	14,900
28	30,300	27,700	22,000	20,400	26,000	59,700	96,500	52,400	37,600	23,800	18,900	18,700
29	34,600	30,600	20,000	20,000	-------	61,200	89,300	56,100	37,600	23,400	19,200	20,000
30	36,600	38,700	19,000	20,000	-------	65,800	83,900	62,400	35,900	23,700	19,300	22,200
31	40,000	-------	20,000	19,500	-------	72,600	-------	69,200	-------	23,300	15,100	-------
TOTAL	759,600	1,419.1M	936,900	630,500	570,100	1,307.4M	3,206.2M	1,680.9M	1,462.5M	1,000.9M	587,700	521,600
MEAN	24,500	47,300	30,220	20,340	20,360	42,170	106,900	54,220	48,750	32,290	18,960	17,390
MAX	40,000	58,100	47,700	26,000	26,000	72,600	138,000	80,200	71,200	38,500	24,500	22,300
MIN	11,000	27,700	19,000	18,000	17,000	24,800	79,900	34,200	35,900	23,300	15,100	10,400
CFSM	.36	.70	.45	.30	.30	.62	1.58	.80	.72	.48	.28	.26
IN.	.42	.78	.52	.35	.31	.72	1.77	.93	.81	.55	.32	.29
AC-FT	1,507M	2,815M	1,858M	1,251M	1,131M	2,593M	6,359M	3,334M	2,901M	1,985M	1,166M	1,035M

CAL YR 1970 TOTAL 11,022,960 MEAN 30,200 MAX 72,100 MIN 9,860 CFSM .45 IN 6.07 AC-FT 21,860,000
WTR YR 1971 TOTAL 14,083,400 MEAN 38,580 MAX 138,000 MIN 10,400 CFSM .57 IN 7.76 AC-FT 27,930,000

05390180 Wisconsin River at Conover, Wis.

LOCATION.--Lat 46°02'52", long 89°15'57", in NE 1/4 sec.8, T.41 N., R.10 E., Vilas County, on left bank 60 ft upstream from highway bridge on County Trunk K, 0.5 mile downstream from Pioneer Creek, and 0.6 mile southwest of Conover.

DRAINAGE AREA.--176 sq mi.

PERIOD OF RECORD.--October 1966 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,640 ft (from topographic map). Prior to Oct. 19, 1966, nonrecording gage at same site and datum.

EXTREMES.--Current year: Maximum discharge, 532 cfs Apr. 13 (gage height, 5.21 ft); minimum, 110 cfs Aug. 10 (gage height, 2.58 ft).
Period of record: Maximum discharge, 532 cfs Apr. 13, 1971; maximum gage height, 5.27 ft Dec. 6, 1968 (backwater from ice); minimum discharge, 84 cfs Aug. 17, 1970 (gage height, 2.30 ft).

REMARKS.--Records good except for winter months, which are fair. Flow regulated by Lac Vieux Desert and Twin Lakes Reservoirs (see p. 130).

Rating table (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Oct. 1 to Nov. 22, July 22-31; stage-discharge relation affected by ice Nov. 23 to Apr. 7.)

2.2	83	3.8	209
2.4	97	4.4	294
2.8	125	5.0	453
3.2	157	5.3	570

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	188	236	230	180	160	170	180	267	163	220	130	124
2	187	208	250	180	160	170	180	214	160	205	129	134
3	190	184	240	190	160	170	170	196	154	187	127	128
4	190	176	230	180	160	170	170	188	147	171	124	125
5	183	165	250	170	160	170	170	183	141	163	119	124
6	177	159	250	170	160	170	180	176	135	155	116	122
7	171	149	250	170	160	170	180	169	146	147	114	119
8	172	143	240	170	160	170	197	161	178	141	112	116
9	173	140	240	160	150	170	220	155	167	132	111	115
10	174	143	230	160	150	160	294	151	151	127	113	119
11	172	142	220	160	150	180	311	153	143	124	115	119
12	171	142	210	160	150	170	448	153	149	124	115	117
13	171	140	210	160	150	180	500	149	155	143	120	115
14	170	135	210	160	150	190	411	143	149	148	131	122
15	167	131	210	160	150	200	368	137	143	144	127	131
16	154	135	210	160	150	190	350	134	138	140	119	135
17	160	148	210	160	150	190	390	131	133	136	117	136
18	155	154	210	150	150	190	409	134	184	133	125	139
19	151	155	210	150	150	160	382	167	212	136	151	139
20	180	166	210	150	150	180	371	147	209	131	153	147
21	151	172	210	150	150	180	324	141	186	129	143	144
22	147	168	210	150	150	170	296	135	163	151	135	140
23	144	190	210	160	150	170	250	131	149	163	130	150
24	145	230	200	160	150	170	227	163	142	159	126	140
25	182	250	200	160	150	170	208	243	145	157	127	140
26	180	240	200	160	150	170	195	275	145	143	127	140
27	181	230	200	160	160	170	190	249	143	139	124	140
28	217	230	200	160	160	180	201	215	137	148	121	130
29	244	220	190	160	------	180	205	186	155	147	117	150
30	244	220	190	160	------	180	204	167	220	139	136	210
31	246	------	190	160	------	180	------	167	------	135	143	------
TOTAL	5,537	5,301	6,720	5,030	4,300	5,440	8,107	5,302	4,720	4,617	3,897	4,010
MEAN	179	177	217	162	154	175	270	171	157	149	126	134
MAX	246	250	250	190	160	200	500	275	220	220	153	210
MIN	144	131	190	150	150	160	170	131	133	124	111	115
CFSM	1.02	1.01	1.23	.92	.88	.99	1.53	.97	.89	.85	.72	.76
IN.	1.17	1.12	1.42	1.06	.91	1.15	1.71	1.12	1.00	.98	.82	.85

CAL YR 1970 TOTAL 56,282 MEAN 154 MAX 436 MIN 85 CFSM .88 IN 11.90
WTR YR 1971 TOTAL 62,981 MEAN 173 MAX 500 MIN 111 CFSM .98 IN 13.31

05390500 Anvil Lake near Eagle River, Wis.

LOCATION.--Lat 45°57'10", long 89°03'11", in sec.13, T.40 N., R.11 E., Vilas County, near the home of Violet Waggoner on north side of lake, 11 miles northeast of Eagle River.

DRAINAGE AREA.--3 sq mi, approximately. Area of Anvil Lake, 380 acres.

PERIOD OF RECORD.--August 1936 to current year (fragmentary).

GAGE.--Nonrecording gage. Datum of gage is 90.00 ft above datum assumed by Wisconsin Department of Natural Resources; gage readings have been reduced to elevations above this datum. Prior to Aug. 13, 1950, staff gage 0.3 mile south at same datum.

EXTREMES.--Current year: Maximum elevation observed, 5.47 ft Mar. 22; minimum observed, 3.77 ft Oct. 10.
Period of record: Maximum elevation observed, 7.20 ft May 3, 7, 17, 21, 24, 28, June 20, 24, 1943; minimum observed, 2.10 ft July 31, 1964.

REMARKS.--Add 90 ft to obtain elevation above datum assumed for this lake by Wisconsin Department of Natural Resources. Lake has no surface outlet. Lake was ice covered about Nov. 22 to Apr. 20.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1												
2												
3									4.53	4.52		
4												
5									4.62			
6												
7											4.27	4.13
8								4.57				
9		4.17										
10	3.77				4.01							
11												
12												
13		4.11										4.12
14											4.27	
15												
16												
17										4.42		
18			4.24									
19	3.88			4.04					4.62			
20												
21											4.17	
22						5.47		4.62				
23												
24	3.92						4.57			4.37		
25												
26									4.62			
27												
28										4.43	4.27	4.17
29					------							
30					------				4.57			
31		------			------		------		------	4.27		------

05391000 Wisconsin River at Rainbow Lake, near Lake Tomahawk, Wis.

LOCATION.--Lat 45°49'58", long 89°32'51", in S 1/2 SW 1/4 sec.30, T.39 N., R.8 E., Oneida County, on right bank 400 ft upstream from Gilmore Creek, 0.3 mile downstream from Rainbow Lake, and 2.5 miles northeast of Lake Tomahawk. Records include flow of Gilmore Creek.

DRAINAGE AREA.--750 sq mi, approximately, includes that of Gilmore Creek.

PERIOD OF RECORD.--July 1936 to current year. Prior to October 1955, published as "at Rainbow Reservoir, near Lake Tomahawk."

GAGE.--Water-stage recorder. Datum of gage is 1,570.05 ft above mean sea level (Public Service Commission of Wisconsin bench mark).

AVERAGE DISCHARGE.--35 years, 695 cfs.

EXTREMES.--Current year: Maximum discharge, 1,310 cfs Dec. 2 (gage height, 3.92 ft); minimum daily, 187 cfs Apr. 12.

Period of record: Maximum discharge, 3,570 cfs Sept. 5, 1941 (gage height, 7.59 ft); minimum, 17 cfs Oct. 10-12, 1940; minimum daily, 35 cfs Apr. 6, 1955.

REMARKS.--Records good. Flow regulated by Rainbow Lake and 12 smaller reservoirs above station (see p. 130).

REVISIONS (WATER YEARS).--WSP 895: 1937(m), WSP 1508: 1944.

Rating tables (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Apr. 13 to May 9).

0.8	173	2.4	630
1.3	284	3.0	875
1.8	430	4.0	1,350

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	488	260	1,080	919	872	940	802	528	1,130	969	709	556
2	485	290	1,260	916	915	959	735	668	737	907	748	555
3	448	299	1,140	915	904	974	765	613	396	760	737	552
4	424	310	1,130	911	868	1,000	738	573	497	680	744	551
5	416	338	1,160	916	934	1,010	743	565	715	763	746	551
6	432	390	1,150	910	939	990	703	561	908	816	735	549
7	441	407	1,070	902	937	970	618	621	917	777	726	545
8	442	434	942	904	931	952	509	673	1,020	751	722	538
9	469	452	944	902	929	937	320	677	869	729	718	536
10	484	405	983	897	921	966	236	604	681	732	725	537
11	483	382	1,050	894	914	965	261	557	633	746	693	532
12	484	604	1,090	895	907	974	219	574	654	823	669	530
13	480	692	1,090	890	902	974	187	582	822	813	663	528
14	450	602	1,090	890	896	954	195	646	800	776	620	529
15	420	503	1,060	884	888	975	251	683	717	808	612	541
16	420	465	1,010	882	912	992	301	706	624	819	638	546
17	490	613	1,010	881	946	986	287	717	735	805	644	547
18	540	707	1,010	874	940	957	261	704	835	785	632	547
19	580	697	996	873	932	966	247	568	697	540	596	547
20	560	696	999	876	931	977	246	503	550	621	574	551
21	580	699	994	871	933	934	253	522	668	751	573	552
22	580	753	981	871	932	902	259	591	771	800	572	549
23	580	819	952	869	931	890	260	623	795	764	571	534
24	580	928	930	863	924	827	261	559	793	795	571	526
25	350	994	941	863	934	817	264	433	721	793	568	526
26	190	991	941	856	947	815	278	505	668	733	562	519
27	360	989	938	860	951	780	341	670	779	696	561	500
28	310	980	942	858	944	795	343	942	943	696	558	493
29	200	974	934	855	------	816	326	1,180	1,010	690	556	428
30	240	973	929	858	------	864	343	1,120	1,020	654	554	276
31	240	------	924	850	------	863	------	1,130	------	636	556	------
TOTAL	13,646	18,646	31,672	27,405	25,816	28,721	11,552	20,598	23,124	23,432	19,853	15,771
MEAN	440	622	1,022	884	922	926	385	664	771	756	640	526
MAX	580	994	1,260	919	951	1,010	802	1,180	1,130	969	748	556
MIN	190	260	924	850	868	780	187	433	396	540	554	276

CAL YR 1970 TOTAL 222,473 MEAN 610 MAX 1,260 MIN 190
WTR YR 1971 TOTAL 260,236 MEAN 713 MAX 1,260 MIN 187

05393000 Tomahawk River at Bradley, Wis.

LOCATION.--Lat 45°32'21", long 89°44'47", in NW 1/4 NW 1/4 sec.9, T.35 N., R.6 E., Lincoln County, at dam at outlet of Lake Nokomis, 0.5 mile northeast of Bradley, 4.0 miles upstream from Jersey powerplant, and 4.7 miles upstream from mouth.

DRAINAGE AREA.--545 sq mi.

PERIOD OF RECORD.--January 1930 to current year. Prior to October 1951, published as "at Tomahawk".

GAGE.--Nonrecording gage and concrete dam, supplemented by frequent readings of tainter-gage openings. Datum of gage is 1,448.24 ft above mean sea level. Prior to October 1951, powerplant records at site 4.0 miles downstream.

AVERAGE DISCHARGE.--41 years, 534 cfs.

EXTREMES.--Current year: Maximum discharge, 1,100 cfs June 20; minimum, 53 cfs Apr. 7.
Period of record: Maximum discharge, 2,690 cfs Oct. 2, 1959; no flow at times in 1931, 1940, 1957.

REMARKS.--Records good except those below 250 cfs, which are poor. Flow completely regulated by four reservoirs operated by Wisconsin Valley Improvement Company (see p. 130).

COOPERATION.--Record of lake elevations and gate openings furnished by Wisconsin Valley Improvement Company.

REVISIONS (WATER YEARS).--WSP 875: 1932, 1935, 1938. WSP 1278: 1952.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	258	56	295	908	774	694	612	142	297	810	682	927
2	329	57	295	908	736	703	459	176	297	843	737	925
3	357	205	295	909	768	718	358	231	297	830	768	845
4	388	143	295	906	763	717	299	264	370	826	776	862
5	432	88	295	905	727	714	301	265	488	833	790	834
6	488	88	295	928	705	712	304	265	532	798	782	796
7	510	132	295	944	705	708	148	321	563	810	898	841
8	509	238	295	942	704	704	53	354	367	828	853	847
9	510	294	295	939	703	699	56	354	280	824	952	905
10	538	327	295	939	700	695	58	354	388	820	809	784
11	553	327	295	914	699	815	61	389	324	786	856	781
12	551	327	295	897	698	718	63	410	398	760	827	811
13	549	327	294	896	696	707	66	455	543	688	899	840
14	548	253	412	893	694	695	68	576	386	682	653	832
15	545	136	538	891	692	691	70	626	500	754	485	839
16	545	80	679	887	690	683	73	634	368	789	670	838
17	544	200	738	886	689	678	75	622	552	786	856	865
18	543	323	762	880	689	713	77	580	576	692	932	878
19	542	357	775	870	688	715	79	493	571	260	826	868
20	540	357	769	850	687	709	80	353	945	241	778	850
21	512	318	852	833	686	701	82	184	733	283	797	833
22	494	296	992	831	686	732	82	317	667	295	760	783
23	442	296	986	831	686	783	83	435	754	456	738	766
24	204	385	923	828	685	812	84	583	614	579	771	696
25	63	312	918	826	684	801	84	924	528	581	825	693
26	54	236	917	823	683	776	85	704	510	564	845	691
27	54	273	915	818	684	749	85	578	552	588	859	690
28	54	295	913	814	685	723	86	559	578	665	866	568
29	55	295	912	773	------	749	86	508	578	691	863	497
30	55	295	910	749	------	770	87	406	679	642	906	228
31	56	------	910	747	------	867	------	320	------	631	930	------
TOTAL	11,832	7,393	18,655	26,964	19,711	22,641	4,204	13,383	15,235	20,633	24,989	23,317
MEAN	382	246	602	870	704	730	140	432	508	666	806	777
MAX	553	385	992	944	786	867	612	924	965	843	952	927
MIN	54	56	294	747	683	678	53	142	280	241	485	228

CAL YR 1970 TOTAL 152,735 MEAN 418 MAX 992 MIN 29
WTR YR 1971 TOTAL 208,957 MEAN 572 MAX 992 MIN 53

05393500 Spirit River at Spirit Falls, Wis.

LOCATION.--Lat 45°26'58", long 89°58'47", in NW 1/4 sec.10, T.34 N., R.4 E., Lincoln County, near center of span on downstream side of bridge 0.2 mile south of Spirit Falls, 0.6 mile upstream from Squaw Creek, and 2.0 miles downstream from Richie Creek.

DRAINAGE AREA.--82 sq mi, approximately.

PERIOD OF RECORD.--April 1942 to current year.

GAGE.--Nonrecording gage and crest-stage gage. Altitude of gage is 1,450 ft (from dam and reservoir data).

AVERAGE DISCHARGE.--29 years, 81.9 cfs (13.56 inches per year).

EXTREMES.--Current year: Maximum daily discharge, 2,150 cfs Apr. 12; maximum gage height, 7.20 ft; minimum discharge observed, 4.9 cfs Aug. 7.

Period of record: Maximum discharge, 4,180 cfs Sept. 18, 1942 (gage height, 10.00 ft), from rating curve extended above 2,500 cfs; minimum observed, 1.0 cfs Aug. 11, 1964 (gage height, 0.85 ft).

REMARKS.--Records good except those for winter months, which are fair.

REVISIONS (WATER YEARS).--WSP 1208: Drainage area. WSP 1308: 1943(M), 1948-50(M).

Rating table (gage height, in feet, and discharge, in cubic feet per second). (Shifting-control method used Apr. 17 to May 25, July 20 to Sept. 18; stage-discharge relation affected by ice Nov. 24 to Apr. 10.)

1.0	2.2	2.0	52	4.0	470
1.2	6.2	2.5	122	5.0	830
1.4	12	3.0	220	6.0	1,390
1.6	21	3.5	335	7.1	2,210

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	332	80	25	21	38	100	182	85	15	9.4	16
2	29	302	380	25	21	41	140	164	70	14	7.5	16
3	26	282	360	25	21	43	130	124	62	11	7.0	16
4	22	320	260	25	21	44	120	98	54	9.4	7.0	14
5	20	254	190	25	22	46	100	91	46	9.4	6.7	14
6	19	206	150	26	23	47	110	84	37	9.1	5.3	14
7	17	160	130	26	25	47	210	69	101	9.4	4.9	13
8	24	135	110	26	26	46	350	61	310	9.4	5.5	12
9	34	115	90	26	25	45	540	57	206	9.4	5.8	11
10	60	148	76	27	24	43	1,000	47	129	9.1	6.2	21
11	46	144	66	27	24	42	2,080	39	99	7.5	59	30
12	38	135	58	27	24	40	2,150	39	152	7.2	26	26
13	33	129	54	26	24	40	1,670	34	101	12	18	21
14	28	107	52	26	24	40	1,130	32	78	10	96	18
15	26	80	50	26	23	43	814	28	62	9.3	62	15
16	23	73	54	25	23	48	758	26	47	7.8	39	13
17	22	67	54	25	24	56	910	23	40	7.5	27	11
18	22	60	50	25	25	68	710	28	31	7.5	20	11
19	20	62	46	25	26	76	578	81	28	61	43	10
20	20	74	41	25	27	82	479	124	31	142	70	13
21	18	111	38	25	28	86	431	113	30	75	43	12
22	16	101	37	24	28	88	340	85	29	39	36	12
23	18	87	38	24	29	86	258	62	23	23	58	20
24	88	78	36	23	29	84	140	330	20	16	41	30
25	190	70	34	23	30	82	115	1,420	20	14	33	26
26	158	66	31	22	31	80	104	710	19	9.1	28	26
27	260	62	29	22	33	80	88	400	17	9.8	24	37
28	710	60	28	22	36	80	109	275	14	11	19	54
29	694	56	26	22	------	80	198	192	14	10	18	69
30	479	52	25	21	------	80	172	138	14	10	13	75
31	368	------	24	21	------	88	------	104	------	10	14	------
TOTAL	3,565	3,928	2,697	762	717	1,889	16,034	5,260	1,969	603.9	852.3	676
MEAN	115	131	87.0	24.6	25.6	60.9	534	170	65.6	19.5	27.5	22.5
MAX	710	332	380	27	36	88	2,150	1,420	310	142	96	75
MIN	16	52	24	21	21	38	88	23	14	7.2	4.9	10
CFSM	1.40	1.60	1.06	.30	.31	.74	6.51	2.07	.80	.24	.34	.27
IN.	1.62	1.78	1.22	.35	.33	.86	7.27	2.39	.89	.27	.39	.31

CAL YR 1970 TOTAL 24,611.5 MEAN 67.4 MAX 710 MIN 3.2 CFSM .82 IN 11.17

WTR YR 1971 TOTAL 38,953.2 MEAN 107 MAX 2,150 MIN 4.9 CFSM 1.30 IN 17.67

05394500 Prairie River near Merrill, Wis.

LOCATION.--Lat 45°14'09", long 89°38'59", on line between secs.20 and 29, T.32 N., R.7 E., Lincoln County, on left bank 40 ft upstream from County Highway C bridge, 1.5 miles upstream from Meadow Creek, 4.5 miles northeast of Merrill, and 8.0 miles upstream from mouth.

DRAINAGE AREA.--181 sq mi.

PERIOD OF RECORD.--January 1914 to September 1931, August 1939 to current year. Monthly discharge only for some periods, published in WSP 1308.

GAGE.--Water-stage recorder. Altitude of gage is 1,300 ft (from topographic map). Prior to Oct. 9, 1968, nonrecording gage 40 ft downstream at same datum.

AVERAGE DISCHARGE.--49 years (1914-31, 1939-71), 180 cfs (13.50 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,820 cfs Apr. 13 (gage height, 6.00 ft); minimum, 75 cfs July 17, 18 (gage height, 2.01 ft).

Period of record: Maximum discharge, 5,800 cfs Aug. 31, 1941 (gage height, 9.45 ft, from floodmarks), from rating curve extended above 2,200 cfs; minimum observed, 34 cfs Oct. 26, 1947 (gage height, 1.39 ft).

REMARKS.--Records good except those for winter months, which are fair.

REVISIONS (WATER YEARS).--WSP 1308: 1915-17(M), 1919-21(M), 1923-31(M), 1942-43(M), 1945(M), 1948-50(M). WSP 1558: Drainage area.

Rating tables (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Apr. 10 to May 25, July 28 to Aug. 22; stage-discharge relation affected by ice Dec. 2 to Mar. 20, Mar. 25-28, Apr. 1-7.)

2.0	74	4.0	643
2.3	122	5.0	1,110
3.0	298	6.0	1,800

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	95	400	224	100	90	94	150	276	176	86	92	89
2	93	353	390	100	90	92	150	257	166	83	92	88
3	90	398	370	100	90	92	160	233	152	81	88	86
4	85	439	330	100	92	92	160	208	144	80	85	90
5	84	388	300	100	94	92	170	198	136	80	84	95
6	83	319	260	100	94	92	190	190	125	82	80	91
7	82	253	220	100	92	94	210	177	145	81	79	87
8	84	212	190	100	92	91	423	152	320	89	77	84
9	85	199	170	100	92	94	838	145	339	84	78	90
10	87	221	150	110	94	96	1,290	140	262	81	84	129
11	87	219	140	100	92	100	1,570	127	383	78	83	148
12	88	202	130	100	92	100	1,760	126	361	80	80	139
13	88	185	120	100	92	100	1,780	124	272	88	88	120
14	86	166	120	100	92	110	1,510	117	195	86	121	108
15	83	146	120	100	92	120	1,210	113	145	80	112	99
16	81	142	110	100	94	110	1,000	111	127	77	102	95
17	80	132	110	100	94	120	915	107	119	78	93	93
18	82	129	110	100	94	120	828	122	117	83	88	95
19	81	127	110	100	94	120	730	190	128	158	88	103
20	82	209	100	100	94	120	621	218	167	182	96	105
21	83	306	110	100	94	129	528	185	181	157	98	105
22	85	271	100	100	92	125	437	156	158	128	96	107
23	92	176	100	98	92	125	366	146	135	110	94	109
24	177	194	100	96	92	122	307	303	135	98	97	111
25	287	171	98	96	90	120	265	577	121	95	96	107
26	261	160	98	96	92	120	235	573	112	96	97	101
27	274	147	100	94	98	110	215	475	105	100	93	99
28	429	150	100	94	98	110	245	337	98	102	90	119
29	486	155	100	92	------	125	289	244	92	101	87	145
30	452	148	100	92	------	135	275	216	91	91	86	154
31	445	------	100	90	------	142	------	192	------	91	88	------
TOTAL	4,777	6,719	4,880	3,058	2,598	3,412	18,828	6,735	5,207	2,986	2,816	3,191
MEAN	154	224	157	98.6	92.8	110	628	217	174	96.3	90.8	106
MAX	486	439	390	110	98	142	1,780	577	383	182	121	154
MIN	80	127	98	90	90	91	150	107	91	77	77	84
CFSM	.85	1.24	.87	.54	.51	.61	3.47	1.20	.96	.53	.50	.59
IN.	.98	1.38	1.00	.63	.53	.70	3.87	1.38	1.07	.61	.58	.66

CAL YR 1970 TOTAL 52,243 MEAN 143 MAX 663 MIN 65 CFSM .79 IN 10.74
WTR YR 1971 TOTAL 65,207 MEAN 179 MAX 1,780 MIN 77 CFSM .99 IN 13.40

05395000 Wisconsin River at Merrill, Wis.

LOCATION.--Lat 45°10'41", long 89°40'52", on line between secs.12 and 13, T.31 N., R.6 E., Lincoln County, on left bank 300 ft downstream from Highway 51 bridge at east end of Merrill, and 0.5 mile downstream from Prairie River.

DRAINAGE AREA.--2,780 sq mi, approximately.

PERIOD OF RECORD.--November 1902 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,228.85 ft above mean sea level. Prior to Sept. 11, 1914, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--68 years (1903-71), 2,677 cfs.

EXTREMES.--Current year: Maximum discharge, 18,400 cfs Apr. 12 (gage height, 11.65 ft); minimum, 528 cfs Oct.16 (gage height, 3.44 ft).
Period of record: Maximum discharge, 49,400 cfs Aug. 31, 1941 (gage height, 18.26 ft) from rating curve extended above 20,000 cfs; minimum, about 90 cfs Sept. 26, 1908 (gage height, 2.45 ft).

REMARKS.--Records good except those for winter months, which are fair. Flow regulated by 20 reservoirs (see p. 130) and 9 powerplants above station.

REVISIONS (WATER YEARS).--WSP 805: Drainage area. WSP 1308: 1904-7, 1909-11, 1913. WSP 1508: 1908, 1915-16 (M), 1917, 1920-21(M), 1925(M), 1930, 1935-36.

Rating table (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 1 to Apr. 2.)

4.0	980	7.0	5,630
4.5	1,510	9.0	9,900
5.0	2,130	11.0	16,200
6.0	3,690	12.0	19,800

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,450	4,140	3,300	2,600	2,600	2,600	3,300	2,890	3,270	2,190	1,970	1,980
2	1,500	3,870	3,800	2,500	2,500	2,600	3,200	2,420	2,990	2,460	1,880	2,160
3	1,570	4,000	4,500	2,600	2,500	2,600	2,990	2,910	2,320	1,980	2,000	2,160
4	1,460	4,140	3,700	2,600	2,700	2,600	2,750	2,890	2,230	2,090	2,230	2,420
5	1,500	3,520	3,400	2,500	2,700	2,500	2,930	2,740	2,280	2,010	2,230	2,000
6	1,370	2,960	3,200	2,500	2,700	2,600	3,120	2,610	2,110	1,990	2,220	1,770
7	1,490	2,500	3,400	2,500	2,600	2,600	3,560	2,410	2,400	2,060	2,170	2,100
8	1,440	2,440	3,000	2,500	2,600	2,600	5,230	2,340	4,390	2,350	2,180	2,410
9	1,760	2,510	2,800	2,500	2,500	2,500	7,260	2,180	3,400	2,240	2,120	2,070
10	1,530	2,750	3,000	2,600	2,600	2,500	9,200	2,230	3,140	2,170	2,180	2,230
11	1,510	2,830	2,600	2,600	2,500	2,600	12,200	2,520	3,470	2,220	2,180	1,980
12	1,870	2,896	2,500	2,600	2,500	2,600	16,400	1,450	3,160	2,350	2,130	1,920
13	1,500	2,690	2,400	2,600	2,500	2,600	16,600	2,000	2,790	2,060	2,230	1,920
14	1,510	2,550	2,300	2,600	2,400	2,600	13,800	2,190	2,740	2,040	2,570	2,030
15	1,560	2,140	2,300	2,600	2,400	2,500	10,400	2,010	2,300	2,010	2,230	2,020
16	1,580	1,960	2,400	2,600	2,400	2,600	9,620	2,080	2,170	2,180	1,960	1,880
17	1,430	1,800	2,500	2,600	2,400	2,600	8,320	2,080	2,230	2,050	1,830	1,790
18	1,550	2,100	2,500	2,500	2,400	2,600	7,770	2,510	2,200	2,230	2,120	1,720
19	1,720	2,020	2,600	2,500	2,400	2,700	7,000	2,510	2,210	3,040	2,400	1,900
20	1,550	2,880	2,600	2,500	2,500	2,700	5,850	2,630	2,950	2,190	2,340	1,820
21	1,640	3,170	2,600	2,500	2,500	2,700	5,130	2,340	2,780	2,290	2,020	1,900
22	1,530	3,540	2,600	2,500	2,500	2,700	3,440	2,550	2,340	2,370	2,180	1,920
23	1,720	2,040	2,600	2,500	2,600	2,700	4,040	2,170	2,430	2,010	2,060	2,050
24	2,210	2,450	2,500	2,600	2,600	2,500	3,480	3,330	2,370	1,950	1,940	1,930
25	2,470	2,490	2,600	2,600	2,600	2,600	2,420	9,540	2,200	2,000	2,050	1,820
26	2,320	2,230	2,500	2,700	2,600	2,600	2,820	10,500	1,900	2,050	2,310	1,980
27	2,520	2,210	2,500	2,700	2,600	2,600	2,490	5,680	2,380	1,980	2,260	1,870
28	4,970	2,300	2,600	2,700	2,600	2,600	2,730	4,770	2,120	2,080	1,940	1,890
29	5,320	2,730	2,600	2,700	------	2,600	3,140	4,170	2,350	2,100	1,920	2,230
30	5,370	2,930	2,600	2,700	------	2,700	2,760	3,570	2,210	2,250	2,040	2,500
31	4,580	------	2,600	2,600	------	2,800	------	3,200	------	2,170	2,000	------
TOTAL	65,500	83,060	87,100	79,900	71,300	81,400	183,750	100,220	77,830	67,160	65,950	60,270
MEAN	2,113	2,769	2,810	2,577	2,546	2,626	6,125	3,233	2,594	2,166	2,127	2,009
MAX	5,370	4,140	4,500	2,700	2,700	2,800	16,600	10,500	4,390	3,040	2,570	2,500
MIN	1,370	1,800	2,300	2,500	2,400	2,600	2,420	1,450	1,900	1,950	1,830	1,720

CAL YR 1970 TOTAL 766,100 MEAN 2,099 MAX 5,370 MIN 200
WTR YR 1971 TOTAL 1,023,440 MEAN 2,804 MAX 16,600 MIN 1,370

05397500 Eau Claire River at Kelly, Wis.

LOCATION.--Lat 44°55'06", long 89°33'00", on line between secs. 9 and 10, T.28 N., R.8 E., Marathon County, on right bank 50 ft downstream from County Highway SS bridge, 0.7 mile northeast of Kelly, 1.3 miles upstream from Big Sandy Creek, 4.5 miles upstream from mouth, and 5.0 miles southeast of Wausau.

DRAINAGE AREA.--326 sq mi.

PERIOD OF RECORD.--January 1914 to November 1926, August 1939 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,177.88 ft above mean sea level. Prior to Sept. 17, 1953, nonrecording gage at same site at datum 1.00 ft higher.

AVERAGE DISCHARGE.--44 years, 246 cfs (10.22 inches per year).

EXTREMES.--Current year: Maximum discharge, 4,600 cfs Apr. 12 (gage height, 7.92 ft); minimum, 60 cfs Aug. 9 (gage height, 1.06 ft).

Period of record: Maximum discharge, 8,300 cfs Aug. 21, 1926 (gage height, 8.4 ft from graph based on gage readings), from rating curve extended above 6,000 cfs; minimum observed, 8 cfs July 17, 1944 (gage height, 0.17 ft), probably result of temporary regulation.

REMARKS.--Records good except those for winter months, which are fair.

REVISIONS (WATER YEARS).--WSP 1508: 1915, 1916-17(M), 1919-26(M), 1940(M), 1945(M), 1950(M).

Rating tables (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 23 to Apr. 6.)

1.0	52	3.5	1,070
1.3	100	5.0	1,980
1.7	207	7.0	3,500
2.5	515	8.2	4,600

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	112	714	250	110	90	110	230	390	192	77	96	67
2	103	607	520	110	90	110	300	370	211	75	85	67
3	95	763	640	110	90	120	360	326	205	73	77	66
4	90	862	740	110	90	120	310	290	181	72	73	65
5	87	765	500	110	90	120	300	278	161	74	70	71
6	84	591	400	100	96	120	400	263	146	72	68	75
7	84	456	340	100	100	130	712	238	144	71	65	76
8	98	376	290	100	100	130	1,210	213	202	82	63	68
9	92	341	250	100	100	130	2,090	196	325	77	61	68
10	93	429	220	100	98	130	3,080	179	291	72	70	90
11	93	419	200	100	96	130	3,960	166	245	67	75	127
12	90	367	180	100	94	140	4,450	161	374	67	72	123
13	88	325	170	100	92	140	3,630	157	403	79	71	103
14	85	283	160	100	92	150	2,760	147	316	81	157	90
15	82	247	150	100	90	160	1,840	138	251	78	131	81
16	79	218	160	100	• 90	160	1,300	131	200	71	108	76
17	77	202	170	100	90	160	1,090	124	167	70	89	70
18	77	191	160	100	90	170	955	137	142	85	79	68
19	76	194	150	100	90	170	823	385	138	122	75	72
20	76	367	140	98	92	170	688	514	134	194	75	78
21	76	518	140	96	94	160	588	419	127	165	76	82
22	78	454	130	96	98	160	508	333	126	124	76	85
23	87	400	130	96	100	160	442	275	116	106	79	87
24	169	350	130	96	100	160	375	583	113	96	78	94
25	360	310	120	96	100	160	325	1,580	106	90	80	103
26	359	270	120	94	110	160	291	1,090	103	83	83	95
27	395	240	120	94	110	160	272	753	97	79	78	100
28	895	220	120	92	110	170	320	481	90	82	74	134
29	1,090	200	120	92	------	180	397	350	84	80	70	274
30	920	190	110	92	------	180	391	273	80	99	70	422
31	899	------	110	92	------	190	------	223	------	105	67	------
TOTAL	7,089	11,869	7,140	3,084	2,682	4,610	34,397	11,163	5,470	2,768	2,491	3,077
MEAN	229	396	230	99.5	95.8	149	1,147	360	182	89.3	80.4	103
MAX	1,090	862	740	110	110	190	4,450	1,580	403	194	157	422
MIN	76	190	110	92	90	110	230	124	80	67	61	65
CFSM	.70	1.21	.71	.31	.29	.46	3.52	1.10	.56	.27	.25	.32
IN.	.81	1.35	.81	.35	.31	.53	3.93	1.27	.62	.32	.28	.35

CAL YR 1970 TOTAL 75,501 MEAN 207 MAX 1,780 MIN 49 CFSM .64 IN 8.62
WTR YR 1971 TOTAL 95,840 MEAN 263 MAX 4,450 MIN 61 CFSM .81 IN 10.94

PEAK DISCHARGE (BASE, 1,500 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
4-12	1000	7.92	4,600	5-25	1400	4.61	1,710

05398000 Wisconsin River at Rothschild, Wis.

LOCATION.--Lat 44°53'09", long 89°38'05", in sec.26, T.28 N., R.7 E., Marathon County, on left bank at Rothschild, 0.5 mile downstream from Rothschild Dam, 1.7 miles north of bridge on U.S. Highway 51, 2.0 miles downstream from Eau Claire River, and 5.0 miles upstream from Black Creek.

DRAINAGE AREA.--4,000 sq mi, approximately.

PERIOD OF RECORD.--October 1944 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,135.86 ft above mean sea level. Auxiliary water-stage recorder in Mosinee Pond 8 miles downstream. Prior to July 23, 1964, nonrecording auxiliary gage at same site and datum, read hourly.

AVERAGE DISCHARGE.--27 years, 3,329 cfs.

EXTREMES.--Current year: Maximum discharge, 38,400 cfs Apr. 12 (gage height, 16.20 ft); minimum daily, 1,480 cfs Oct. 11.

Period of record: Maximum discharge, 49,200 cfs Apr. 12, 1965, Mar. 31, 1967 (gage height, 18.46 ft); minimum daily, 680 cfs Oct. 17, 1948.

Flood of Sept. 1, 1941, reached a stage of 22.3 ft from tailwater data at Rothschild Dam (discharge 75,000 cfs from rating curve extended above 45,000 cfs by logarithmic plotting).

REMARKS.--Records good except those for winter months, or discharge below 1,500 cfs, which are fair. Flow regulated by 20 reservoirs (see p. 130) and 12 powerplants above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2,060	7,050	4,700	2,800	2,800	2,600	5,670	4,600	4,380	2,840	2,070	2,260
2	1,980	6,440	9,730	3,000	2,300	2,400	6,010	4,600	4,360	3,070	2,260	2,070
3	1,570	7,870	9,660	2,900	2,200	2,700	5,940	4,300	3,460	2,670	2,330	2,400
4	1,500	8,670	7,280	2,700	2,300	2,800	5,470	4,040	3,300	2,310	2,330	1,990
5	2,080	7,040	5,000	2,700	2,500	2,800	5,910	4,050	3,000	1,880	2,470	2,490
6	1,990	5,610	3,200	2,700	2,000	2,800	5,490	3,740	2,500	2,290	2,740	1,760
7	1,920	4,440	3,600	2,800	2,200	2,800	7,630	3,430	3,100	2,350	1,950	2,140
8	1,910	3,990	4,000	2,800	2,400	2,900	11,800	3,370	5,390	2,640	2,070	2,660
9	2,030	4,080	3,800	2,500	2,200	2,900	21,300	3,080	5,070	2,730	2,340	2,360
10	2,030	4,300	3,100	2,700	2,200	2,900	29,800	2,680	4,440	2,270	2,590	3,460
11	1,480	4,980	3,600	2,800	2,500	2,900	33,600	2,970	4,760	1,950	2,380	2,830
12	2,160	4,290	3,670	2,800	2,600	2,900	35,800	2,830	5,020	2,840	2,350	2,070
13	2,270	4,120	3,000	2,800	2,500	2,800	33,400	2,390	4,560	2,850	2,340	2,350
14	2,070	3,500	2,600	3,000	2,100	2,900	26,400	2,770	4,270	2,330	3,000	2,440
15	1,940	3,500	2,300	2,800	2,300	3,100	19,200	2,350	3,550	2,250	2,580	2,370
16	2,130	2,970	2,700	2,500	2,500	3,000	14,700	2,250	3,070	2,540	2,540	2,160
17	1,630	2,560	3,200	2,700	2,400	3,200	13,400	2,590	3,000	2,130	2,290	2,150
18	1,530	2,400	3,500	2,800	2,500	3,500	12,900	2,650	3,070	2,340	2,190	1,680
19	2,010	2,890	3,300	2,800	2,600	3,500	11,000	3,900	2,860	3,730	2,570	1,790
20	2,060	4,280	2,500	2,500	2,500	3,500	6,950	4,980	3,430	3,310	2,830	2,380
21	2,010	4,700	2,600	2,300	2,200	3,600	7,640	3,870	3,570	2,930	1,890	2,180
22	1,950	6,170	2,700	2,500	2,300	3,500	6,600	3,340	3,400	2,880	2,360	2,280
23	2,170	3,570	2,900	2,300	2,300	3,500	5,650	3,260	3,230	2,810	2,350	2,290
24	2,920	2,590	2,800	2,300	2,400	3,500	5,500	5,310	3,330	1,990	2,220	2,550
25	4,700	2,900	2,800	2,600	2,400	3,500	3,960	15,800	3,040	1,800	2,210	1,890
26	4,220	3,000	2,500	2,600	2,600	3,400	4,120	18,900	2,400	2,230	2,370	1,970
27	4,400	3,000	2,700	2,900	2,300	3,000	3,900	10,800	2,360	2,410	2,550	2,470
28	9,690	2,800	2,900	2,300	2,500	3,200	3,800	7,260	2,780	2,460	1,870	4,330
29	12,000	3,000	2,800	2,700	------	3,200	5,440	6,600	2,850	2,320	1,950	4,500
30	9,150	3,920	2,800	2,800	------	3,500	5,080	5,150	2,750	2,790	2,250	7,260
31	8,300	------	2,800	2,600	------	3,700	------	4,370	------	2,180	2,120	------
TOTAL	99,860	130,620	114,740	83,200	66,600	96,500	366,960	152,430	106,300	78,120	72,380	77,530
MEAN	3,221	4,354	3,701	2,684	2,379	3,113	12,230	4,917	3,543	2,520	2,335	2,584
MAX	12,000	8,670	9,730	3,000	2,800	3,700	35,800	18,900	5,390	3,730	3,000	7,260
MIN	1,480	2,400	2,300	2,300	2,000	2,400	3,800	2,250	2,360	1,800	1,870	1,680

CAL YR 1970 TOTAL 1,089,190 MEAN 2,984 MAX 12,300 MIN 1,130
WTR YR 1971 TOTAL 1,445,240 MEAN 3,960 MAX 35,800 MIN 1,480

WISCONSIN RIVER BASIN

05399500 Big Eau Pleine River near Stratford, Wis.

LOCATION.--Lat 44°49'19", long 90°04'46", on line between sec.13, T.27 N., R.3 E., and sec.18, T.27 N., R.4 E., Marathon County, on left bank 15 ft upstream from bridge on State Highway 97, 1.0 mile north of Stratford, and 1.4 miles downstream from small tributary.

DRAINAGE AREA.--224 sq mi.

PERIOD OF RECORD.--July 1914 to December 1925, April 1937 to current year. Monthly discharge only for some periods, published in WSP 1308.

GAGE.--Water-stage recorder. Datum of gage is 1,154.24 ft above mean sea level. July 24, 1914, to Dec. 31, 1925, nonrecording gage at site 0.5 mile upstream at different datum. Apr. 30, 1937, to Sept. 15, 1938, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--45 years (1914-25, 1937-71), 170 cfs (10.30 inches per year).

EXTREMES.--Current year: Maximum discharge, 8,900 cfs Apr. 9 (gage height, 16.85 ft) gage height affected by ice; minimum, 3.8 cfs Aug. 12 (gage height, 2.41 ft).

Period of record: Maximum discharge, 41,000 cfs Sept. 9, 1938 (gage height, 24.5 ft, from floodmarks), from rating curve extended above 24,000 cfs; no flow Aug. 17, 1947, Jan. 22 to Feb. 5, 1961.

Flood of June 5, 1914, reached a stage of 20.7 ft, from floodmarks (discharge, 40,000 cfs), former site and datum.

REMARKS.--Records good except those for winter months, which are fair.

REVISIONS (WATER YEARS).--WSP 1308: 1917, 1920-22, 1926, 1946, 1948, 1950. WSP 1508: 1915-25(M), 1937, 1946(M), 1948(M).

Rating table (gage height, in feet, and discharge, in cubic feet per second). (Shifting-control method used Oct. 1-27, Apr. 15 to May 22, May 27 to June 8; rate of change in stage used as a factor Oct. 28, Apr. 11-13, May 24-26; stage-discharge relation affected by ice Nov. 24, 25, Dec. 1 to Apr. 10.)

2.3	1.5	4.0	175	10.0	2,690
2.6	12	5.0	410	12.0	4,400
3.0	38	6.0	690	14.0	6,540
3.5	88	8.0	1,500	15.0	7,900

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	271	110	19	14	40	370	200	60	7.1	15	5.1
2	16	242	900	23	13	40	640	173	61	6.3	13	5.1
3	12	1,020	700	21	13	39	640	107	110	5.4	11	5.1
4	11	1,010	430	20	14	38	600	86	77	5.2	9.3	5.9
5	9.7	475	270	18	14	37	580	108	55	5.1	7.8	6.5
6	9.3	273	150	17	14	37	1,100	100	40	5.0	6.9	6.5
7	10	177	100	17	15	36	2,000	74	53	4.9	6.2	6.0
8	9.8	124	70	16	15	35	4,000	57	154	10	5.7	5.6
9	10	128	52	16	15	35	7,200	48	130	12	5.2	93
10	11	461	43	16	15	34	4,500	41	69	9.9	5.5	327
11	12	369	37	16	16	34	3,420	37	49	7.7	5.1	136
12	16	222	32	16	17	34	2,120	33	39	7.5	4.4	70
13	19	155	29	16	18	34	1,280	30	42	8.9	8.7	30
14	17	114	26	16	18	38	854	27	38	8.6	122	19
15	14	85	24	15	19	45	562	24	29	7.6	51	20
16	13	67	26	15	20	58	623	26	24	6.8	33	19
17	13	57	27	14	21	80	893	23	22	6.8	21	12
18	12	52	27	14	22	120	521	25	20	9.2	16	9.7
19	11	52	26	14	24	130	323	85	29	57	14	9.5
20	11	436	26	14	25	130	232	101	25	191	13	16
21	11	684	23	14	26	130	173	66	21	81	12	15
22	11	321	21	14	28	120	126	48	17	42	10	13
23	14	148	20	15	30	120	95	49	15	29	8.4	21
24	66	120	21	15	31	120	75	2,640	13	21	7.7	24
25	308	96	20	15	33	120	63	4,230	12	16	8.0	22
26	201	104	20	15	35	110	54	1,240	12	14	7.4	21
27	721	81	19	15	36	110	54	577	10	12	6.6	27
28	1,430	65	19	15	38	110	136	310	9.1	14	6.0	50
29	875	59	18	15	------	130	297	183	8.3	13	5.4	84
30	453	58	18	14	------	170	202	115	8.0	23	5.2	286
31	334	------	18	14	------	250	------	78	------	20	5.1	------
TOTAL	4,679.8	7,528	3,322	494	599	2,564	33,733	10,941	1,251.4	667.0	455.6	1,369.0
MEAN	151	251	107	15.9	21.4	82.7	1,124	353	41.7	21.5	14.7	45.6
MAX	1,430	1,020	900	23	38	250	7,200	4,230	154	191	122	327
MIN	9.3	52	18	14	13	34	54	23	8.0	4.9	4.4	5.1
CFSM	.67	1.12	.48	.07	.10	.37	5.02	1.58	.19	.10	.07	.20
IN.	.78	1.25	.55	.08	.10	.43	5.60	1.82	.21	.11	.08	.23

CAL YR 1970 TOTAL 60,634.9 MEAN 166 MAX 6,410 MIN 1.2 CFSM .74 IN 10.07
WTR YR 1971 TOTAL 67,603.8 MEAN 185 MAX 7,200 MIN 4.4 CFSM .83 IN 11.23

PEAK DISCHARGE (BASE, 2,500 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
4- 9	--	--	8,900	5-24	2200	14.19	6,790

05400600 Little Plover River near Arnott, Wis.

LOCATION.--Lat 44°28'05", long 89°29'20", in NE 1/4 sec.24, T.23 N., R.8 E., Portage County, 150 ft below bridge on town road 2.2 miles northwest of Arnott and 3.5 miles upstream from mouth.

DRAINAGE AREA.--1.5 sq mi, approximately, of which a portion is noncontributing.

PERIOD OF RECORD.--July 1959 to current year.

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 1,087.37 ft above mean sea level (levels by Wisconsin Department of Natural Resources). Prior to April 1960, nonrecording gage at same site and datum 0.26 ft higher.

AVERAGE DISCHARGE.--12 years, 3.39 cfs.

EXTREMES.--Current year: Maximum discharge, 18 cfs Apr. 8 (gage height, 2.04 ft); minimum, 1.8 cfs Feb. 22 (gage height, 0.64 ft).

Period of record: Maximum discharge, 66 cfs Sept. 13, 1962 (gage height, 3.43 ft); minimum, 0.8 cfs for many days in July, August, and September 1959.

REMARKS.--Records good.

Rating table (gage height, in feet, and discharge, in cubic feet per second). (Shifting-control method used Oct. 1 to Sept. 30; stage-discharge relation affected by ice Dec. 8, 18, 19, 22-24, 26, Dec. 31 to Jan. 2, Jan. 4-25, Jan. 30 to Feb. 8, Feb. 14, 17, 19, 20, 23, Feb. 26 to Mar. 6.)

0.7	2.3	1.6	8.4
1.0	4.0	2.0	19
1.3	6.0	2.5	38

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	4.7	4.5	3.2	3.0	3.1	11	5.3	4.6	3.0	4.5	3.1
2	3.5	4.6	4.0	3.2	3.0	3.1	7.9	4.9	5.0	2.9	4.2	3.0
3	3.3	6.7	4.3	3.1	3.0	3.1	6.0	4.7	4.6	2.9	4.0	2.9
4	3.3	6.2	4.1	3.1	3.0	3.1	5.5	5.1	4.5	3.2	3.8	3.0
5	3.3	5.1	3.9	3.1	3.0	3.1	6.6	5.1	4.4	3.1	3.7	3.0
6	3.3	4.8	3.5	3.0	3.1	3.1	8.5	4.7	4.3	2.9	3.6	2.9
7	3.2	4.4	3.5	3.0	3.1	3.1	11	4.5	4.8	2.9	3.7	2.9
8	3.3	4.3	3.6	3.0	3.1	2.9	14	4.5	4.4	4.2	3.5	3.0
9	3.4	4.8	3.6	3.1	3.1	2.9	14	4.3	4.1	3.3	3.5	3.2
10	3.3	4.7	3.4	3.1	3.1	3.0	9.7	4.2	4.1	3.2	3.8	3.5
11	3.2	4.4	3.5	3.1	3.1	3.0	7.1	4.5	4.1	3.1	3.5	3.1
12	3.4	4.3	3.5	3.1	2.9	3.0	6.9	4.4	4.1	3.4	3.4	3.1
13	3.2	4.1	3.5	3.1	2.9	3.1	6.0	4.3	4.1	3.2	4.4	3.1
14	3.1	3.9	3.5	3.1	3.0	4.1	5.5	4.2	4.0	3.0	5.8	3.0
15	3.0	3.9	3.4	3.2	3.0	4.7	5.4	4.3	3.9	2.9	4.3	2.9
16	3.0	4.0	3.5	3.2	3.0	4.1	6.1	4.2	3.8	3.2	4.0	2.9
17	3.0	3.9	3.4	3.1	3.0	4.0	6.2	4.2	3.7	3.1	3.9	2.9
18	2.9	3.9	3.4	3.1	3.0	4.0	5.4	5.0	3.7	3.2	3.8	2.9
19	2.9	4.2	3.4	3.1	3.2	4.2	5.6	10	4.0	3.6	3.9	3.4
20	2.9	5.4	3.4	3.1	3.1	3.8	5.6	6.4	4.0	3.2	3.7	3.1
21	3.0	4.6	3.3	3.1	3.1	3.7	5.2	5.3	3.7	3.1	3.6	3.0
22	3.1	4.3	3.4	3.0	3.1	3.5	5.1	5.0	3.7	3.0	3.5	3.1
23	3.3	3.7	3.4	3.0	3.1	3.4	5.0	5.0	3.6	6.7	3.3	3.2
24	4.4	3.6	3.4	3.0	3.1	3.3	4.8	8.0	3.3	4.2	3.3	3.0
25	3.8	3.9	3.4	3.0	3.1	3.3	4.7	7.6	3.5	3.9	3.3	3.2
26	3.6	3.8	3.4	3.0	3.2	3.3	4.6	5.8	3.3	3.7	3.2	3.3
27	5.8	3.6	3.4	3.0	3.2	3.7	5.1	5.1	3.2	3.9	3.1	5.5
28	8.7	3.6	3.3	3.0	3.2	4.4	6.1	4.8	3.1	7.1	3.1	4.3
29	5.7	3.8	3.2	3.0	------	4.5	5.5	4.7	3.0	4.8	3.0	4.0
30	5.5	3.8	3.2	3.0	------	4.7	5.3	4.6	3.3	6.0	3.0	3.9
31	5.1	------	3.2	3.0	------	6.7	------	4.5	------	5.0	3.1	------
TOTAL	116.0	131.0	109.5	95.2	85.8	113.0	205.4	159.2	117.9	114.9	114.5	97.4
MEAN	3.74	4.37	3.53	3.07	3.06	3.65	6.85	5.14	3.93	3.71	3.69	3.25
MAX	8.7	6.7	4.5	3.2	3.2	6.7	14	10	5.0	7.1	5.8	5.5
MIN	2.9	3.6	3.2	3.0	2.9	2.9	4.6	4.2	3.0	2.9	3.0	2.9

CAL YR 1970 TOTAL 1,444.0 MEAN 3.96 MAX 25 MIN 2.6
WTR YR 1971 TOTAL 1,459.8 MEAN 4.00 MAX 14 MIN 2.9

05400650 Little Plover River at Plover, Wis.

LOCATION.--Lat 44°28'26", long 89°31'44", in SW 1/4 sec.14, T.23 N., R.8 E., Portage County, on right bank at bridge on town road, 1.0 mile northeast of Plover and 1.2 miles upstream from mouth.

DRAINAGE AREA.--15 sq mi, approximately, of which a large portion is noncontributing.

PERIOD OF RECORD.--July 1959 to current year.

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 1,068.34 ft above mean sea level (levels by Wisconsin Department of Natural Resources). Prior to May 1960, nonrecording gage at same site and datum 0.88 ft lower.

AVERAGE DISCHARGE.--12 years, 9.83 cfs.

EXTREMES.--Current year: Maximum discharge, 27 cfs Apr. 9 (gage height, 1.90 ft); minimum, 6.5 cfs Feb. 22 (gage height, 0.76 ft).

Period of record: Maximum discharge, 79 cfs Feb. 9, 1966 (gage height, 2.95 ft); minimum, 2.4 cfs May 23, 1965 (gage height, 0.41 ft), result of temporary dam at flume entrance; minimum daily, 4.3 cfs Aug. 19, 20, 1959.

REMARKS.--Records good.

Rating table (gage height, in feet, and discharge, in cubic feet per second).

0.7	5.7	2.0	29
1.0	10	2.5	44
1.5	19	3.0	84

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.4	13	13	10	8.4	9.0	18	14	12	9.1	11	8.5
2	9.4	13	12	10	8.2	9.0	16	14	13	8.8	11	8.4
3	9.1	15	12	9.7	8.2	9.0	14	13	13	8.6	11	8.2
4	9.1	15	12	9.6	8.5	9.0	14	14	12	9.1	11	8.2
5	9.1	14	11	10	8.8	9.0	15	14	12	9.1	11	8.2
6	9.1	13	11	9.6	8.5	9.1	17	13	12	8.6	11	8.1
7	9.1	13	11	9.6	8.5	9.1	19	13	12	8.5	10	8.1
8	9.1	13	11	9.4	8.5	9.2	23	13	12	10	10	8.1
9	9.2	13	11	9.7	8.5	9.0	24	12	11	9.1	9.2	8.4
10	9.2	13	11	9.8	8.6	9.1	20	12	11	8.8	9.7	9.1
11	9.0	13	11	9.8	8.6	9.1	18	13	11	8.6	9.2	8.5
12	9.4	13	11	9.4	8.8	9.1	18	13	11	9.0	9.0	8.4
13	9.2	12	11	9.8	8.8	9.4	17	12	11	9.0	9.7	8.4
14	9.1	12	10	9.8	8.8	10	16	12	11	8.5	13	8.2
15	9.0	12	10	9.1	9.0	12	16	12	11	8.1	11	7.9
16	9.0	12	11	9.4	9.2	11	16	12	10	8.4	10	7.9
17	9.0	12	11	9.4	9.2	10	16	12	10	8.8	10	7.9
18	9.0	12	11	9.4	9.2	11	15	13	10	8.6	10	7.9
19	9.0	12	11	9.0	9.2	11	15	19	10	9.7	9.8	8.5
20	9.0	14	10	9.1	9.1	10	15	15	11	8.1	9.6	8.6
21	9.0	13	10	9.4	9.0	10	15	14	10	7.9	9.2	8.2
22	9.2	12	11	9.7	9.0	10	14	13	10	8.6	9.0	8.4
23	9.7	11	10	9.4	9.2	9.8	14	13	9.7	15	9.0	8.8
24	11	11	10	9.6	9.0	9.7	14	16	9.7	12	9.1	8.4
25	11	12	10	9.7	9.1	9.6	14	16	10	10	9.2	8.5
26	10	12	10	9.0	9.2	9.8	14	14	9.7	9.7	9.0	9.0
27	12	11	10	9.1	9.2	10	14	14	9.4	9.8	8.8	12
28	16	11	9.6	9.1	9.2	11	15	13	9.1	15	8.5	11
29	14	11	9.7	9.1	------	12	14	13	9.0	12	8.5	10
30	14	11	10	9.1	------	12	14	13	9.6	13	8.4	9.8
31	13	------	10	8.8	------	14	------	12	------	12	8.5	------
TOTAL	311.4	374	332.3	293.6	247.5	311.0	484	416	322.2	301.5	303.4	259.6
MEAN	10.0	12.5	10.7	9.47	8.84	10.0	16.1	13.4	10.7	9.73	9.79	8.65
MAX	16	15	13	10	9.2	14	24	19	13	15	13	12
MIN	9.0	11	9.6	8.8	8.2	9.0	14	12	9.0	7.9	8.4	7.9

CAL YR 1970 TOTAL 3,923.6 MEAN 10.7 MAX 47 MIN 7.5
WTR YR 1971 TOTAL 3,956.5 MEAN 10.8 MAX 24 MIN 7.9

PEAK DISCHARGE (BASE, 22 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
4- 9	0200	1.90	27				

05400800 Wisconsin River at Wisconsin Rapids, Wis.

LOCATION.--Lat 44°22'05", long 89°51'30", in SW 1/4 sec.24, T.22 N., R.5 E., Wood County, at Centralia powerplant of Nekoosa-Edwards Paper, Inc., 1.6 miles downstream from Chicago and Northwestern Railway bridge in Wisconsin Rapids.

DRAINAGE AREA.--5,400 sq mi, approximately.

PERIOD OF RECORD.--May 1914 to March 1950 (published as "near Nekoosa"), October 1957 to current year.

GAGE.--Water-stage recorders on headwater and tailwater. Elevation of powerplant pond is 980 ft and datum of powerplant gages is 887.83 ft above mean sea level (levels by Wisconsin Valley Improvement Co.). May 1914 to March 1950, at site 7.0 miles downstream at different datum.

AVERAGE DISCHARGE.--49 years (1914-50, 1957-71), 4,887 cfs.

EXTREMES.--Current year: Maximum discharge, 46,700 cfs Apr. 14; minimum daily, 1,520 cfs Sept. 6.
Period of record: Maximum discharge, 70,400 cfs Sept. 12, 1938 (gage height, 19.10 ft), from rating curve extended above 58,000 cfs; minimum, 26 cfs Sept. 7, 1942; minimum daily, 165 cfs Aug. 12, 1934.

REMARKS.--Records good. Discharge computed from powerplant records on basis of load-discharge rating of hydroelectric units as developed by Geological Survey and tainter-gate ratings and spillway ratings based on theoretical formulas and discharge measurements. Flow regulated by 21 reservoirs (see p. 130) and many powerplants above station. Water diverted periodically from pond of Wisconsin Rapids powerplant 2.6 miles upstream into Cranberry Creek, a tributary of Yellow River, for cranberry culture. Probably most of the water diverted is lost by evaporation and transpiration. These diversions in cubic feet per second, for water year October 1970 to September 1971, were as follows:

Oct. 1	99	Oct. 9	100	Oct. 17	100	Sept. 21	100
Oct. 2	100	Oct. 10	100	Oct. 18	100	Sept. 22	100
Oct. 3	100	Oct. 11	100	Oct. 19	22	Sept. 23	100
Oct. 4	100	Oct. 12	100	Sept.16	4	Sept. 24	100
Oct. 5	100	Oct. 13	100	Sept.17	100	Sept. 25	100
Oct. 6	100	Oct. 14	100	Sept.18	100	Sept. 26	100
Oct. 7	100	Oct. 15	100	Sept.19	100	Sept. 27	51
Oct. 8	100	Oct. 16	100	Sept.20	100		

REVISIONS (WATER YEARS).--WSP 1308 1915(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2,310	9,560	5,310	3,470	3,340	4,090	9,210	6,360	5,650	3,000	2,270	3,020
2	2,200	7,630	10,300	3,520	4,320	4,020	9,640	6,320	6,090	2,950	3,070	3,060
3	2,210	9,910	13,500	3,280	4,070	4,060	10,100	6,250	6,160	2,300	3,130	2,850
4	1,800	12,700	10,400	3,850	4,100	4,040	11,400	5,810	5,520	2,430	3,090	2,640
5	2,330	10,900	5,350	4,100	4,360	4,220	11,300	5,160	5,400	2,470	3,010	1,860
6	2,470	6,990	5,520	4,060	4,330	3,960	11,700	5,620	5,480	3,050	2,910	1,520
7	2,360	5,070	5,660	4,030	2,160	1,740	14,100	5,420	4,870	3,780	2,680	2,880
8	2,250	5,380	5,110	4,020	3,360	3,600	19,200	5,530	5,470	3,740	2,220	3,140
9	2,230	5,750	4,730	4,300	3,780	4,020	27,400	5,350	5,010	3,520	2,720	3,060
10	2,020	6,170	5,140	2,920	3,950	4,160	33,300	4,440	4,760	3,280	2,910	3,160
11	1,870	5,760	5,000	4,080	4,130	4,160	41,100	4,010	5,170	2,680	2,880	2,980
12	2,080	6,310	5,020	4,150	3,840	4,300	42,100	4,070	5,590	3,080	2,890	2,330
13	1,960	5,840	4,480	4,250	4,120	4,520	42,700	4,060	6,570	3,320	3,270	3,010
14	2,130	5,200	4,330	4,310	2,580	4,390	40,700	4,000	6,200	3,040	3,970	3,010
15	1,960	3,530	3,850	4,180	3,400	5,440	29,900	3,910	5,070	2,720	3,200	2,720
16	1,930	4,120	4,000	4,020	3,560	4,890	23,600	3,030	4,570	2,770	3,140	2,700
17	1,930	4,040	3,950	2,950	4,110	4,590	18,200	3,660	4,120	3,040	2,930	2,580
18	1,840	4,120	4,080	3,960	4,120	5,080	16,690	4,230	4,030	2,880	3,030	2,610
19	2,160	4,260	4,200	4,170	4,420	5,530	16,800	4,350	3,840	4,030	2,960	2,170
20	2,540	5,040	3,490	4,370	4,380	5,240	15,200	4,810	3,600	3,690	3,060	2,610
21	2,410	8,000	3,900	4,350	2,470	4,930	9,900	5,150	3,630	3,400	3,080	2,610
22	2,660	6,160	4,110	4,480	3,650	5,370	7,950	5,140	3,920	3,580	2,330	2,730
23	2,560	5,190	4,310	4,220	4,220	4,970	5,540	5,760	3,920	3,490	3,120	2,820
24	3,380	4,380	2,060	2,810	4,180	5,460	7,190	7,250	3,970	3,110	3,090	2,810
25	3,720	4,190	2,320	3,850	4,330	5,160	6,990	19,700	3,850	2,390	2,960	2,749
26	4,470	4,200	3,720	4,230	4,430	5,560	4,710	26,100	3,800	2,700	2,890	2,120
27	7,240	4,000	3,450	4,300	4,050	6,060	4,970	21,100	3,040	3,110	2,870	3,140
28	11,000	4,230	4,030	4,150	2,460	6,320	5,790	11,800	3,580	3,600	2,460	4,000
29	14,000	2,450	4,250	4,000	-------	5,740	6,740	9,200	2,910	3,870	2,210	4,840
30	13,400	3,650	3,870	3,950	-------	5,930	6,870	8,060	3,020	4,060	2,900	7,220
31	12,000	-------	4,160	1,860	-------	7,460	-------	5,290	-------	3,520	3,010	-------
TOTAL	119,420	176,720	153,600	120,190	106,220	148,900	510,900	220,940	138,810	98,600	90,260	88,949
MEAN	3,852	5,891	4,955	3,877	3,794	4,803	17,030	7,127	4,627	3,181	2,912	2,965
MAX	14,000	12,700	13,500	4,480	4,430	7,460	42,700	26,100	6,570	4,060	3,970	7,220
MIN	1,800	2,450	2,060	1,860	2,160	1,740	4,710	3,030	2,910	2,300	2,210	1,520

CAL YR 1970 TOTAL 1,505,797 MEAN 4,125 MAX 18,600 MIN 841
WTR YR 1971 TOTAL 1,973,500 MEAN 5,407 MAX 42,700 MIN 1,520.

05401020 Tenmile Creek ditch 5 near Bancroft, Wis.

LOCATION.--Lat 44°18'08", long 89°32'59", in NE 1/4 sec.16, T.21 N., R.8 E., Portage County, at bridge on country road, 1.2 miles west of U.S. Highway 51 and 1.8 miles southwest of Bancroft.

DRAINAGE AREA.--8.8 sq mi, approximately.

PERIOD OF RECORD.--June 1964 to current year.

GAGE.--Water-stage recorder and 90° V-notch sharp-crested weir in one bay of dam and broad-crested weir in other bay. Datum of gage is 1,063.57 ft above mean sea level (levels by Wisconsin Works Progress Administration).

AVERAGE DISCHARGE.--7 years, 7.38 cfs.

EXTREMES.--Current year: Maximum discharge, 37 cfs May 19 (gage height, 2.20 ft); minimum daily, 2.9 cfs Sept. 7, 8, 16-18.

Period of record: Maximum discharge, 202 cfs May 27, 1969 (gage height, 4.53 ft); minimum, 2.1 cfs Jan. 18, 1967 (gage height, 0.81 ft); minimum daily, 2.2 cfs Aug. 11, 13, 14, 17-19, 1967, Aug. 27, 1970.

REMARKS.--Records good, except when stop logs are moved, which are fair. There is approximately 2 miles of dredged drainage ditching above this gage. Sprinkler irrigation from ground-water wells is quite extensive in the basin. Records of water temperatures for the current year are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.5	9.1	8.8	7.5	4.1	5.0	19	11	11	5.4	5.7	3.9
2	5.4	9.0	8.8	7.3	4.1	5.2	17	11	11	5.3	5.4	3.7
3	5.4	12	8.7	7.1	4.0	5.4	14	10	10	5.1	5.3	3.3
4	5.3	12	8.0	7.1	4.0	5.6	14	11	10	5.1	5.0	3.3
5	5.3	11	7.3	7.3	3.9	5.8	14	11	10	5.1	4.8	3.3
6	5.1	10	7.3	7.0	3.9	5.8	15	10	9.8	4.8	4.4	3.0
7	5.1	9.8	8.0	6.2	3.9	6.0	16	10	9.8	4.6	4.2	2.9
8	5.1	9.5	8.0	6.1	3.9	6.2	17	10	9.4	6.1	4.0	2.9
9	5.1	9.8	7.7	6.4	3.9	6.4	16	9.8	9.0	5.3	3.9	3.0
10	5.3	10	7.7	6.6	3.9	6.6	14	9.8	8.4	5.0	3.9	3.2
11	5.3	9.5	7.7	6.6	3.8	6.8	14	9.8	7.7	4.4	3.9	3.1
12	5.5	9.3	7.7	6.4	3.8	7.1	14	9.8	7.5	4.8	3.7	3.1
13	5.4	9.1	7.7	6.2	3.8	7.3	13	9.6	8.1	6.2	3.9	3.0
14	5.3	9.0	7.3	6.2	3.8	9.8	12	9.4	7.5	5.3	7.1	3.0
15	5.1	8.7	7.3	6.0	3.7	14	12	9.2	7.3	5.0	5.5	3.0
16	5.1	8.7	7.5	6.0	3.7	12	12	9.0	7.1	4.6	5.3	2.9
17	5.1	8.5	7.5	5.8	3.7	12	12	8.8	7.0	4.4	5.0	2.9
18	5.1	8.5	7.5	5.8	3.7	11	11	11	7.0	4.4	4.8	2.9
19	5.1	8.7	7.5	5.6	3.7	11	11	26	7.1	5.0	4.8	3.0
20	5.0	11	7.3	5.4	3.8	10	11	17	7.3	4.4	4.6	3.0
21	5.1	10	7.3	5.4	3.8	9.8	11	15	7.0	4.2	4.4	3.1
22	5.1	9.8	7.5	5.2	3.8	9.5	10	17	7.0	3.9	4.2	3.1
23	5.3	9.8	7.3	5.0	3.9	9.1	10	17	7.1	5.5	4.0	3.5
24	6.4	9.3	7.3	4.9	4.0	9.0	9.8	14	6.8	5.1	4.4	4.3
25	6.2	9.1	7.1	4.8	4.1	8.7	9.8	13	7.0	4.6	4.8	4.6
26	6.1	9.1	7.3	4.7	4.2	8.7	9.5	14	6.6	4.5	4.3	3.8
27	8.1	9.0	7.3	4.6	4.4	9.1	9.8	13	6.4	4.5	4.2	3.5
28	11	9.0	7.1	4.4	4.6	11	11	12	6.1	5.9	3.9	5.0
29	10	9.0	6.8	4.3	------	12	11	12	5.5	5.3	3.7	6.4
30	9.8	9.0	7.1	4.2	------	13	11	12	5.7	6.4	3.7	5.6
31	9.8	------	7.5	4.2	------	15	------	11	------	6.2	3.7	------
TOTAL	187.5	286.3	234.9	180.3	109.9	273.9	380.9	373.2	237.2	156.4	140.5	105.3
MEAN	6.05	9.54	7.58	5.82	3.93	8.84	12.7	12.0	7.91	5.05	4.53	3.51
MAX	11	12	8.8	7.5	4.6	15	19	26	11	6.4	7.1	6.4
MIN	5.0	8.5	6.8	4.2	3.7	5.0	9.5	8.8	5.5	3.9	3.7	2.9

CAL YR 1970 TOTAL 2,486.3 MEAN 6.81 MAX 18 MIN 2.2
WTR YR 1971 TOTAL 2,666.3 MEAN 7.30 MAX 26 MIN 2.9

05401050 Tennile Creek near Nekoosa, Wis.

LOCATION.--Lat 44°15'44", long 89°48'38", in NE 1/4 sec.32, T.21 N., R.6 E., Wood County, on left bank upstream from bridge on State Highway 13, 5.8 miles southeast of Nekoosa.

DRAINAGE AREA.--64 sq mi, approximately.

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1962-63. October 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is 967.39 ft above mean sea level. Prior to May 13, 1964, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--8 years, 55.6 cfs.

EXTREMES.--Current year: Maximum discharge, 210 cfs Apr. 2 (gage height, 5.50 ft); minimum daily, 23 cfs Feb. 13-18, 20-22.

Period of record: Maximum discharge, 326 cfs Apr. 4, 1969 (gage height, 6.07 ft); minimum, 9.5 cfs Dec. 16, 1964.

REMARKS.--Records good except those for winter periods, which are fair. Approximately 40 miles of drainage ditches and 22 check dams are used to control the water table in the basin. Sprinkler irrigation from ground-water sources is developing rapidly in the area.

Rating table (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Oct. 1-9; stage-discharge relation affected by ice Dec. 6-15, 18, 19, 21-29, Dec. 31 to Mar. 9, Mar. 17-26.)

3.8	18	5.0	129
4.0	28	5.5	210
4.5	68		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	63	67	41	24	30	177	93	81	52	60	39
2	40	64	69	40	25	31	198	88	80	50	57	38
3	38	75	69	35	25	33	176	84	79	48	55	37
4	37	82	70	31	26	34	159	85	76	48	53	37
5	37	79	65	30	25	35	153	89	74	49	52	36
6	37	77	50	30	24	37	155	84	72	47	50	36
7	37	73	60	31	24	38	161	80	73	47	49	35
8	38	69	62	32	24	39	164	79	72	52	47	35
9	38	70	60	32	25	40	165	77	69	50	46	36
10	39	75	54	33	25	41	153	75	67	48	46	39
11	39	75	56	33	24	42	140	74	66	47	45	38
12	40	72	60	33	24	43	134	74	65	48	44	37
13	39	71	54	33	23	45	128	73	64	56	44	36
14	38	69	54	33	23	52	120	72	64	54	57	35
15	37	68	54	33	23	65	114	70	62	50	56	34
16	36	68	59	34	23	73	114	69	63	48	53	33
17	37	67	58	34	23	74	114	68	60	48	50	33
18	36	66	56	34	23	74	107	73	58	48	49	32
19	36	67	50	33	24	70	103	110	60	50	48	34
20	36	77	40	32	23	66	103	123	63	49	47	34
21	36	82	45	31	23	64	99	107	61	49	46	34
22	36	77	49	31	23	62	94	100	60	49	45	34
23	36	53	47	31	24	60	91	95	61	53	43	35
24	42	62	45	30	24	58	89	110	59	53	43	34
25	44	63	48	30	25	68	87	120	59	52	43	34
26	44	67	46	30	26	80	85	111	57	50	43	34
27	49	65	46	28	27	85	87	104	56	49	42	42
28	59	63	48	26	28	94	99	97	54	55	41	44
29	65	66	46	25	------	105	101	92	52	56	40	43
30	64	65	41	25	------	120	96	87	53	61	39	47
31	64	------	41	24	------	145	------	83	------	62	39	------
TOTAL	1,296	2,090	1,669	978	680	1,903	3,766	2,746	1,940	1,578	1,472	1,095
MEAN	41.8	69.7	53.8	31.5	24.3	61.4	126	88.6	64.7	50.9	47.5	36.5
MAX	65	82	70	41	28	145	198	123	81	62	60	47
MIN	36	53	40	24	23	30	85	68	52	47	39	32

CAL YR 1970 TOTAL 18,301 MEAN 50.1 MAX 152 MIN 20
WTR YR 1971 TOTAL 21,213 MEAN 58.1 MAX 198 MIN 23

05401100 Fourteenmile Creek near New Rome, Wis.

LOCATION.--Lat 44°12'15", long 89°48'29", in S 1/2 sec.17, T.20 N., R.6 E., Adams County, 50 ft above twin culverts on State Highway 13, and 2.7 miles southeast of New Rome.

DRAINAGE AREA.--77 sq mi, approximately.

PERIOD OF RECORD.--Annual maximum and occasional low-flow measurements, water years 1961-64. March 1964 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 980 ft (from topographic map). Prior to Mar. 2, 1964, crest-stage gage only at datum 7.03 ft lower, and Mar. 2, 1964, to Aug. 27, 1964, nonrecording gage and crest-stage gage.

AVERAGE DISCHARGE.--7 years, 40.5 cfs.

EXTREMES.--Current year: Maximum discharge, 259 cfs Nov. 12 (gage height, 5.50 ft); minimum, 2.1 cfs Sept. 17-19 (gage height, 1.89 ft), result of regulation.

Period of record: Maximum discharge, 275 cfs Mar. 24, 1966; minimum, 0.65 cfs Jan. 25-27, 1968 (gage height, 1.45 ft).

REMARKS.--Records good. Some regulation caused by manipulation of gates at recreation dam above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second).

1.8	1.0	2.8	68
1.9	2.4	3.4	122
2.0	5.6	4.4	192
2.3	23	5.6	261

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	45	93	25	20	16	27	68	64	25	9.6	3.7
2	17	47	85	25	19	16	71	66	61	25	8.7	3.7
3	16	48	85	25	18	16	110	63	59	21	8.7	3.7
4	15	65	85	26	18	16	117	64	53	22	7.8	4.0
5	15	80	83	26	19	17	118	66	51	25	6.0	4.0
6	15	83	76	23	18	17	122	64	50	22	5.6	3.4
7	16	72	71	21	18	17	131	59	54	20	6.0	2.4
8	17	64	71	22	17	17	138	55	52	23	5.6	2.3
9	19	71	70	22	17	17	142	54	48	21	5.3	3.0
10	17	108	69	21	16	17	135	50	44	18	5.6	6.5
11	15	181	68	21	16	18	125	49	42	15	6.0	6.5
12	15	237	67	21	15	19	120	49	42	14	4.6	5.3
13	15	81	64	21	15	20	114	46	43	16	4.6	4.6
14	14	54	64	21	15	20	106	45	42	15	23	4.3
15	11	48	27	21	15	21	98	44	39	15	22	3.0
16	11	46	18	21	14	22	100	48	36	14	18	2.4
17	9.6	44	19	21	14	22	100	46	34	13	15	2.1
18	10	41	20	21	14	22	91	54	29	13	14	2.1
19	10	40	21	21	14	22	85	83	36	13	15	2.3
20	12	39	21	21	15	22	83	100	44	12	15	2.4
21	13	40	22	21	15	22	82	108	41	11	14	2.3
22	14	38	22	21	16	23	75	104	40	9.1	13	3.0
23	17	33	22	20	16	23	72	94	45	16	10	3.4
24	25	32	22	20	16	23	67	110	43	16	8.2	3.4
25	26	37	23	20	16	24	64	110	41	12	7.8	4.0
26	25	39	23	20	16	24	48	108	37	8.2	6.5	5.6
27	33	30	23	20	17	25	56	98	36	7.4	5.6	11
28	43	20	23	20	16	25	69	89	30	11	5.0	13
29	43	10	24	20	------	25	71	81	29	10	4.0	14
30	44	30	24	20	------	25	70	74	29	13	4.3	16
31	45	------	25	20	------	25	------	68	------	12	4.0	------
TOTAL	614.6	1,803	1,430	668	455	638	2,807	2,217	1,294	487.7	288.5	147.4
MEAN	19.8	60.1	46.1	21.5	16.3	20.6	93.6	71.5	43.1	15.7	9.31	4.91
MAX	45	237	93	26	20	25	142	110	64	25	23	16
MIN	9.6	10	18	20	14	16	27	44	29	7.4	4.0	2.1

CAL YR 1970 TOTAL 6,121.5 MEAN 16.8 MAX 237 MIN 1.3
WTR YR 1971 TOTAL 12,850.2 MEAN 35.2 MAX 237 MIN 2.1

05401535 Big Roche a Cri Creek near Adams, Wis.

LOCATION.--Lat 44°05'52", long 89°46'30", in SW 1/4 sec.22, T.19 N., R.6 E., Adams County, at culverts on Brown Deer Avenue, 0.5 mile upstream from Dry Creek, and 10 miles north of Adams.

DRAINAGE AREA.--54 sq mi, approximately.

PERIOD OF RECORD.--October 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is 959.45 ft above mean sea level. Prior to May 15, 1964, nonrecording gage at same site at datum 1.71 ft higher.

AVERAGE DISCHARGE.--8 years, 55.6 cfs.

EXTREMES.--Current year: Maximum discharge, 174 cfs May 20 (gage height, 4.58 ft); minimum daily, 33 cfs Sept. 7, 16-18 (gage height, 1.82 ft).

Period of record: Maximum discharge, 178 cfs Mar. 25, 1966 (gage height, 4.59 ft); minimum, 24 cfs Dec. 31, 1964 (gage height, 1.36 ft), result of freezeup, Feb. 28 (gage height, 1.47 ft).

REMARKS.--Records good except those for winter periods, which are fair. There is some irrigation from groundwater sources in the upper portion of basin.

Rating table (gage height, in feet, and discharge, in cubic feet per second). (Shifting-control method used Oct. 1 to Nov. 27, May 8 to June 27, July 3 to Sept. 30; stage-discharge relation affected by ice Dec. 2 to Mar. 18-26.)

1.6	30	3.0	93
2.0	48	4.0	143
2.5	70	4.6	173

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	66	65	46	39	47	111	81	84	59	44	38
2	51	65	62	47	40	45	121	78	83	57	43	37
3	49	74	62	46	41	46	113	75	82	55	42	35
4	49	82	60	45	42	47	105	75	79	54	42	35
5	49	78	52	44	41	48	105	81	77	55	41	36
6	49	73	46	44	40	47	113	77	74	54	41	35
7	48	71	50	44	39	46	122	73	80	51	40	33
8	48	70	54	44	41	46	130	71	83	55	40	34
9	50	70	56	45	42	46	135	70	76	53	39	37
10	52	74	52	46	43	46	131	69	72	51	40	44
11	50	71	48	46	43	47	121	68	70	49	41	41
12	52	69	54	45	45	49	113	70	69	50	39	37
13	52	68	50	46	41	52	110	69	75	54	39	36
14	50	66	46	46	39	57	104	67	70	50	67	35
15	48	65	50	45	41	73	97	66	67	48	53	34
16	48	64	54	44	42	75	95	67	65	47	45	33
17	48	64	54	43	43	73	102	65	63	47	43	33
18	48	63	52	43	44	70	99	75	62	48	42	33
19	47	64	47	42	46	66	91	134	66	56	42	35
20	47	74	46	42	47	64	89	167	85	49	43	39
21	48	75	47	43	47	62	85	169	73	46	40	36
22	47	71	48	42	46	62	82	142	67	44	39	35
23	48	60	47	42	46	60	80	120	86	54	38	37
24	55	64	46	41	46	62	78	123	76	55	40	36
25	58	66	45	41	47	62	77	137	72	48	46	36
26	52	66	46	41	46	64	76	135	70	46	42	42
27	60	64	47	40	49	67	77	118	67	45	40	40
28	75	62	46	40	50	73	89	104	63	49	38	42
29	74	62	47	40	------	79	89	97	59	46	37	40
30	68	63	45	40	------	82	83	91	59	46	37	56
31	67	------	45	40	------	91	------	87	------	45	36	------
TOTAL	1,638	2,044	1,569	1,343	1,216	1,854	3,023	2,921	2,174	1,566	1,299	1,120
MEAN	52.8	68.1	50.6	43.3	43.4	59.8	101	94.2	72.5	50.5	41.9	37.3
MAX	75	82	65	47	50	91	135	169	86	59	67	56
MIN	47	60	45	40	39	45	76	65	59	44	36	33

CAL YR 1970 TOTAL 18,570 MEAN 50.9 MAX 135 MIN 33
WTR YR 1971 TOTAL 21,767 MEAN 59.6 MAX 169 MIN 33

PEAK DISCHARGE (BASE, 110 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
4- 2	1600	3.59	122	5-20	2200	4.58	174
4- 9	1600	3.86	136				

05402000 Yellow River at Babcock, Wis.

LOCATION.--Lat 44°18'05", long 90°07'15", in NW 1/4 sec.14, T.21 N., R.3 E., Wood County, on right bank at downstream side of bridge on State Highway 80 at Babcock, 1.9 miles upstream from Hemlock Creek.

DRAINAGE AREA.--223 sq mi.

PERIOD OF RECORD.--March 1944 to current year.

GAGE.--Water stage recorder.--Datum of gage is 954.75 ft above mean sea level. Prior to Oct. 28, 1948, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--27 years, 133 cfs (8.10 inches per year).

EXTREMES.--Current year: Maximum discharge, 4,350 cfs Apr. 9 (gage height, 13.09 ft); minimum, 11 cfs Aug. 30 to Sept. 2, (gage height, 1.79 ft).
Period of record: Maximum discharge, 11,600 cfs Apr. 2, 1952 (gage height, 17.38 ft); minimum observed, 1.0 cfs Oct. 1, 1948 (gage height, 1.22 ft).

REMARKS.--Records good except those for winter periods, which are fair. There is a large recreation dam about 5 miles upstream.

REVISIONS (WATER YEARS).--WSP 1308: 1944(M), 1946-47(M), 1949(M).

Rating table (gage height, in feet, and discharge, in cubic feet per second). (Shifting-control method used Oct. 1-26, Apr. 10 to Sept. 30; stage-discharge relation affected by ice Dec. 6-14, Dec. 17 to Apr. 5.)

1.5	5.2	3.3	184	10.0	1,880
1.8	16	4.5	389	12.0	3,360
2.1	39	6.0	659	14.0	5,400
2.6	96	8.0	838		

DISCHARGE. IN CUBIC FEET PER SECOND. WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	230	70	20	18	38	1.000	266	93	20	21	11
2	22	200	85	20	19	38	1.600	201	76	19	18	11
3	24	450	89	21	19	38	2.100	166	66	15	17	11
4	25	660	199	21	20	37	1.600	145	58	14	15	12
5	22	500	327	23	21	36	1.200	101	53	14	15	15
6	26	240	180	24	23	42	1.390	176	34	16	14	15
7	28	160	130	24	23	50	1.800	149	40	13	13	14
8	30	120	80	24	23	52	3.540	86	47	17	12	14
9	28	170	62	23	23	52	4.310	84	42	17	12	17
10	28	420	52	23	22	52	3.440	73	46	14	13	27
11	29	320	43	22	22	52	1.970	65	46	13	15	30
12	28	230	36	22	22	52	1.240	63	43	13	14	33
13	27	190	30	22	22	52	831	52	37	17	13	36
14	30	150	25	21	22	58	745	31	32	18	53	29
15	35	120	23	21	22	80	374	32	27	13	97	23
16	34	100	21	20	22	120	332	33	24	13	44	18
17	34	84	24	20	23	140	315	31	25	13	53	15
18	37	72	25	20	24	160	700	32	23	12	41	14
19	36	62	26	20	25	170	559	108	23	18	33	16
20	37	200	25	20	26	160	324	102	32	17	29	20
21	36	350	24	20	27	150	230	126	31	13	25	20
22	38	390	23	20	28	140	167	129	28	12	21	20
23	42	230	21	20	29	160	93	109	52	21	21	24
24	46	150	20	19	30	180	76	127	37	21	18	26
25	53	110	20	19	32	190	75	956	32	15	19	24
26	84	92	20	19	34	200	71	1.760	27	15	18	26
27	250	80	20	19	35	200	68	1.120	24	15	15	40
28	800	70	20	19	37	190	124	516	22	26	13	114
29	1.000	62	20	19	------	170	173	347	21	28	12	209
30	500	56	20	19	------	300	284	126	20	49	11	214
31	300	------	20	18	------	540	------	114	------	46	11	------
TOTAL	3.731	6.268	1.780	642	693	3.899	30.731	7.426	1.161	567	726	1.098
MEAN	120	209	57.4	20.7	24.8	126	1.024	240	38.7	18.3	23.4	36.6
MAX	1.000	660	327	24	37	540	4.310	1.760	93	49	97	214
MIN	22	56	20	18	18	36	68	31	20	12	11	11
CFSM	.54	.94	.26	.09	.11	.57	4.59	1.08	.17	.08	.10	.16
IN.	.62	1.05	.30	.11	.12	.65	5.13	1.24	.19	.09	.12	.18

CAL YR 1970 TOTAL 51.008.6 MEAN 140 MAX 4.360 MIN 6.4 CFSM .63 IN 8.51
WTR YR 1971 TOTAL 58.722.0 MEAN 161 MAX 4.310 MIN 11 CFSM .72 IN 9.80

PEAK DISCHARGE (BASE, 1,200 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
4- 2	--	--	1,900	5-25	2400	10.32	2,010
4- 9	1300	13.09	4,350				

NOTE.--No gage-height record Oct. 27 to Dec. 1.

05403500 Lemonweir River at New Lisbon, Wis.

LOCATION.--Lat 43°52'47", long 90°09'40", in SE 1/4 sec.8, T.16 N., R.3 E., Juneau County, near center of span on downstream side of bridge on State Highway 80 in New Lisbon, 200 ft downstream from recreation dam and 1.2 miles upstream from Webster Creek.

DRAINAGE AREA.--500 sq mi, approximately.

PERIOD OF RECORD.--March 1944 to current year.

GAGE.--Nonrecording gage read twice daily. Datum of gage is 867.05 ft above mean sea level. Prior to May 5, 1948, nonrecording gage at site 100 ft downstream at same datum.

AVERAGE DISCHARGE.--27 years, 344 cfs (9.34 inches per year).

EXTREMES.--Current year: Maximum discharge observed, 2,100 cfs Apr. 2 (gage height, 9.37 ft); minimum observed, 84 cfs July 4 (gage height, 1.23 ft).
Period of record: Maximum discharge, 6,880 cfs May 8, 1960 (gage height, 12.94 ft, from graph based on gage readings); minimum observed, 36 cfs Aug. 15, 1944 (gage height, -0.06 ft).

REMARKS.--Records good except those for winter period, which are fair. Occasional regulation by dam 200 ft upstream. Water diverted periodically into the basin from the Yellow and Black River basins for cranberry culture.

REVISIONS (WATER YEARS).--WSP 1308: 1944(M), 1949-50(M). WSP 1728: Drainage area.

Rating tables (gage height, in feet, and discharge, in cubic feet per second). (Stage-discharge relation affected by ice Nov. 23, 24, Dec. 12-15, Dec. 22 to Mar. 12.)

Oct. 1 to Feb. 28				Mar. 1 to Sept. 30			
1.3	89	5.0	592	1.3	89	5.0	560
2.0	143	7.0	1,060	1.5	103	7.0	1,030
3.0	262	9.0	1,860	2.0	143	9.0	1,860
				3.0	250	11.0	3,570

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	231	544	318	240	170	620	1,780	376	440	123	228	116
2	209	519	329	240	170	600	2,080	376	357	118	245	121
3	183	538	342	240	170	600	1,970	343	301	117	222	121
4	169	530	368	240	170	580	1,800	324	251	93	200	118
5	162	525	374	230	180	580	1,650	373	252	95	195	118
6	166	538	360	230	170	560	1,530	422	255	101	185	120
7	153	544	351	220	170	560	1,470	464	326	104	163	119
8	148	516	368	220	170	540	1,450	495	354	120	132	115
9	149	476	332	220	170	540	1,450	459	349	129	118	116
10	148	474	301	210	180	520	1,450	379	315	132	122	151
11	150	485	273	210	190	520	1,400	350	279	124	132	191
12	155	503	310	210	200	520	1,280	332	248	116	139	293
13	158	526	310	210	200	513	1,170	268	279	118	129	360
14	152	526	300	210	200	566	1,070	249	250	118	228	340
15	149	512	230	210	200	740	981	252	205	118	279	318
16	146	507	315	200	210	910	895	179	191	102	380	249
17	147	487	361	200	220	1,020	767	183	179	99	510	211
18	154	456	353	200	220	1,160	652	242	170	108	511	181
19	169	417	322	200	230	1,260	604	644	153	160	451	174
20	158	450	297	200	290	1,230	553	791	174	326	349	164
21	148	519	231	210	320	1,100	495	713	193	332	253	164
22	143	517	230	210	350	1,020	446	564	196	426	262	171
23	141	500	240	210	380	957	397	499	180	499	283	178
24	152	500	230	210	440	897	339	564	177	424	304	174
25	175	489	220	200	480	805	293	673	214	326	270	192
26	135	478	210	200	540	740	277	731	248	312	155	232
27	273	425	210	190	600	722	287	788	243	298	138	248
28	331	366	210	190	640	776	352	822	213	258	143	263
29	435	328	220	180	------	905	376	762	170	181	138	268
30	476	304	220	190	------	1,070	379	659	143	217	131	384
31	523	------	220	180	------	1,370	------	542	------	214	125	------
TOTAL	6,321	14,467	8,985	6,500	7,630	24,501	29,643	14,817	7,305	6,008	7,160	5,968
MEAN	204	482	290	210	273	790	988	478	244	194	231	199
MAX	523	544	374	240	640	1,370	2,080	822	440	499	511	384
MIN	141	304	210	180	170	513	277	179	143	93	118	115
CFSM	.41	.96	.58	.42	.55	1.58	1.98	.96	.49	.39	.46	.40
IN.	.47	1.08	.67	.48	.57	1.82	2.21	1.10	.54	.45	.53	.44

CAL YR 1970 TOTAL 105,509 MEAN 289 MAX 2,110 MIN 60 CFSM .58 IN 7.85
WTR YR 1971 TOTAL 139,305 MEAN 382 MAX 2,080 MIN 93 CFSM .76 IN 10.36

05403630 Hulburt Creek near Wisconsin Dells, Wis.

LOCATION.--Lat 43°37'37", long 89°48'36", in SW 1/4 sec.5, T.13 N., R.6 E., Sauk County, on left bank 100 ft upstream from highway bridge, 2.0 miles west of Wisconsin Dells, and 1.6 miles upstream from mouth.

DRAINAGE AREA.--11.1 sq mi.

RECORDS AVAILABLE.--October 1970 to current year.

GAGE.--Water-stage recorder.

EXTREMES.--Maximum discharge during year, 58 cfs May 19 (gage height, 3.51 ft); minimum daily, 2.6 cfs Aug. 8, 16, 21.

REMARKS.--Records fair except those periods of no gage-height record and ice effect, which are poor.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.9	4.2	4.2	3.4	3.5	4.2	14	5.3	4.9	3.6	3.0	3.0
2	3.9	4.2	3.6	3.5	3.5	4.1	7.7	5.2	4.8	3.5	3.0	3.2
3	3.8	4.2	4.0	4.3	3.6	3.8	6.2	4.9	4.1	3.5	2.8	3.2
4	3.7	4.2	4.0	6.2	3.6	3.8	5.8	6.7	4.2	3.6	2.7	3.4
5	3.7	4.2	3.4	5.3	3.6	3.9	6.1	6.2	4.1	3.9	2.7	4.0
6	3.7	4.1	3.3	5.2	3.5	4.1	6.2	5.3	4.0	3.5	2.8	3.6
7	3.9	4.0	3.4	4.8	3.5	3.8	6.5	4.8	5.7	3.6	3.1	3.2
8	3.9	3.9	3.6	4.6	3.5	3.9	6.6	4.8	5.6	8.5	2.6	3.3
9	3.9	4.0	3.8	4.4	3.4	3.8	6.1	4.8	3.8	4.1	2.9	4.2
10	4.1	4.0	3.9	4.2	3.4	3.8	5.5	4.9	3.6	3.6	5.6	5.7
11	3.9	3.9	4.8	4.0	3.4	4.0	5.3	4.4	3.9	3.5	4.9	3.6
12	3.8	3.9	4.0	3.9	3.3	4.2	12	4.4	3.6	4.2	2.8	3.2
13	3.8	3.8	3.9	3.7	3.3	5.7	13	4.3	10	4.3	3.3	3.2
14	3.8	3.8	3.9	3.6	3.2	9.4	6.7	4.3	3.5	3.4	14	3.1
15	3.7	3.7	3.8	3.6	3.2	11	6.1	4.2	3.4	3.2	3.5	3.1
16	3.7	3.7	3.8	3.5	3.2	9.3	12	4.2	3.3	3.2	2.6	2.9
17	3.7	3.7	3.7	3.5	3.4	6.0	9.8	4.2	3.2	3.2	2.7	3.0
18	3.7	3.7	3.7	3.5	3.1	5.2	6.8	9.3	3.2	3.3	2.8	3.0
19	3.7	3.7	3.7	3.4	7.3	6.5	6.2	38	3.9	4.9	3.2	4.3
20	3.8	6.2	3.6	3.4	8.2	5.7	6.1	8.0	11	3.2	2.8	4.0
21	3.9	3.9	3.6	3.4	5.8	5.4	5.8	6.0	3.9	2.9	2.6	3.5
22	3.6	3.3	3.5	3.4	5.8	4.9	5.4	5.3	4.2	3.0	2.8	3.1
23	3.5	3.3	3.5	3.3	4.6	4.5	5.4	5.5	7.1	4.3	3.2	3.3
24	4.7	3.0	3.5	3.2	4.3	4.4	5.2	29	4.2	4.4	2.9	3.0
25	3.7	3.2	3.5	3.3	4.5	4.3	4.0	9.9	5.6	3.3	2.8	3.2
26	3.6	3.4	3.5	3.7	5.2	4.5	3.9	7.1	4.3	3.3	2.7	3.5
27	4.3	3.4	3.5	3.7	4.6	5.4	7.4	6.2	4.1	2.7	2.9	4.0
28	5.0	3.3	3.5	3.6	3.6	8.0	7.0	6.0	4.0	3.3	2.9	3.5
29	5.0	3.4	3.4	3.6	------	7.4	5.6	5.6	3.6	2.9	2.7	3.2
30	4.5	3.5	3.4	3.5	------	8.2	5.3	5.0	3.6	2.9	2.7	3.2
31	4.3	------	3.4	3.5	------	11	------	4.9	------	2.9	2.9	------
TOTAL	122.2	114.8	114.4	120.2	115.1	174.2	209.7	228.7	138.4	113.7	104.9	103.7
MEAN	3.94	3.83	3.69	3.88	4.11	5.62	6.99	7.38	4.61	3.67	3.38	3.46
MAX	5.0	6.2	4.8	6.2	8.2	11	14	38	11	8.5	14	5.7
MIN	3.5	3.0	3.3	3.2	3.1	3.8	3.9	4.2	3.2	2.7	2.6	2.9
CFSM	.36	.35	.33	.35	.37	.51	.63	.66	.42	.33	.30	.31
IN.	.41	.38	.38	.40	.39	.58	.70	.77	.46	.38	.35	.35

WTR YR 1971 TOTAL 1,660.0 MEAN 4.55 MAX 38 MIN 2.6 CFSM .41 IN 5.56

05403700 Dell Creek near Lake Delton, Wis.

LOCATION.--Lat 43°33'05", long 89°51'55", in NW 1/4 sec.2, T.12 N., R.5 E., on right bank 50 ft upstream from highway bridge, 6.0 miles southwest of Lake Delton, and 7.0 miles upstream from mouth.

DRAINAGE AREA.--44.9 sq mi.

RECORDS AVAILABLE.--September 1957 to September 1964, October 1970 to current year.

GAGE.--Water-stage recorder. Datum of gage is 847.49 ft above mean sea level, datum of 1929. Prior to Oct. 4, 1957, wire-weight gage 50 ft downstream at same datum.

AVERAGE DISCHARGE.--9 years, 27.1 cfs (8.20 inches per year).

EXTREMES.--Current year: Maximum discharge, 250 cfs May 19 (gage height, 5.78 ft); minimum, 17 cfs Aug. 10 (gage height, 2.32 ft).

Period of record: Maximum discharge, 997 cfs Mar. 2, 1965 (gage height, 8.38 ft); minimum, 10.9 cfs Aug. 1, 2, 1959 (gage height, 1.75 ft).

REMARKS.--Records good except those for periods of no gage-height record and winter periods, which are poor.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	22	23	22	20	26	98	28	26	20	20	21
2	22	22	23	20	20	24	61	28	27	20	20	21
3	21	22	22	22	20	25	35	26	26	20	20	21
4	20	22	24	32	21	26	34	35	24	20	20	21
5	20	22	21	26	20	22	33	34	24	21	19	24
6	20	22	21	25	20	23	32	28	23	20	20	22
7	20	21	19	25	20	22	35	26	28	20	19	21
8	18	20	20	25	20	22	36	26	25	41	20	20
9	18	21	20	25	19	23	35	26	22	26	20	24
10	20	20	20	25	19	22	27	25	22	23	23	50
11	20	20	21	24	19	22	30	25	22	21	27	29
12	22	19	20	23	19	23	48	25	22	22	21	21
13	21	19	20	22	19	28	91	24	22	24	20	21
14	21	19	21	21	19	50	39	24	22	21	118	21
15	20	19	21	20	19	102	32	23	21	21	54	20
16	19	19	21	20	19	62	46	24	20	20	26	20
17	20	19	21	20	20	42	55	23	20	20	23	20
18	21	25	21	19	21	42	35	45	20	21	22	20
19	19	25	21	19	36	46	32	221	20	30	21	26
20	19	27	21	19	47	39	31	126	34	25	22	28
21	18	32	21	19	31	34	30	35	23	21	21	23
22	18	37	20	19	26	31	29	30	21	20	21	21
23	18	35	20	19	26	32	28	30	26	24	22	22
24	19	30	20	19	23	28	27	136	23	24	21	22
25	19	29	20	20	23	27	27	70	36	22	22	22
26	18	29	20	21	27	27	27	36	26	21	21	24
27	24	26	20	21	36	30	36	32	22	21	21	28
28	32	24	20	20	27	48	37	29	21	22	21	23
29	26	24	20	20	------	66	31	28	20	21	21	22
30	24	24	20	20	------	63	29	27	20	21	20	23
31	22	------	20	20	------	84	------	26	------	21	21	------
TOTAL	642	715	642	672	656	1,161	1,166	1,321	708	694	787	701
MEAN	20.7	23.8	20.7	21.7	23.4	37.5	38.9	42.6	23.6	22.4	25.4	23.4
MAX	32	37	24	32	47	102	98	221	36	41	118	50
MIN	18	19	19	19	19	22	27	23	20	20	19	20
CFSM	.46	.53	.46	.48	.52	.84	.87	.95	.53	.50	.57	.52
IN.	.53	.59	.53	.56	.54	.96	.97	1.09	.59	.57	.65	.58

WTR YR 1971 TOTAL 9,865 MEAN 27.0 MAX 221 MIN 18 CFSM .60 IN 8.17

PEAK DISCHARGE (BASE, 110 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
3-15	--	--	a119	5-24	1700	5.06	159
5-19	1600	5.78	250	8-14	1500	5.05	158

a About

NOTE.--No gage-height record from Oct. 1 to Nov. 30.

05404000 Wisconsin River near Wisconsin Dells, Wis.

LOCATION.--Lat 43°36'22", long 89°45'25", in NW 1/4 sec.14, T.13 N., R.6 E., Sauk County, on right bank 0.5 mile downstream from Dell Creek and 3.0 miles downstream from Wisconsin Dells.

DRAINAGE AREA.--7,830 sq mi, approximately.

PERIOD OF RECORD.--October 1934 to current year.

GAGE.--Water-stage recorder. Datum of gage is 801.48 ft above mean sea level (levels by Corps of Engineers). Prior to Oct. 1, 1963, water-stage recorder at same site at datum 5.00 ft higher.

AVERAGE DISCHARGE.--37 years, 6,634 cfs.

EXTREMES.--Current year: Maximum discharge, 36,000 cfs Apr. 13 (gage height, 15.95 ft); minimum daily, 2,500 cfs July 5.

Period of record: Maximum discharge, 72,200 cfs Sept. 14, 1938 (gage height, 23.83 ft, present datum); minimum daily, 1,060 cfs Aug. 19, 1936.

REMARKS.--Records good except those for winter periods, which are fair. Flow regulated by 23 reservoirs above station (see p. 130). In 1938, when the maximum of record occurred, there were 21 reservoirs above station, the two large reservoirs, Petenwell and Castle Rock not yet in existence. Diurnal fluctuation caused by powerplant of Wisconsin Power & Light Co. at Wisconsin dells, which shuts down frequently to 1,000 KWH, about 660 cfs, from powerplant records.

REVISIONS (WATER YEARS).--WSP 1728: 1936 (m).

Rating tables (gage height, in feet, and discharge, in cubic feet per second). (Stage-discharge relation affected by ice Dec. 4-15, Dec. 23 to Jan. 3, Mar. 13.)

Oct. 1 to Apr. 13				Apr. 14 to Sept. 30			
4.7	2,150	10.0	14,800	4.8	2,450	10.0	15,500
5.5	3,800	13.0	24,200	5.5	3,990	13.0	24,300
7.0	7,180	16.0	36,200	7.0	7,650	16.0	36,200

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3,170	14,600	5,560	6,000	5,200	5,600	11,400	9,390	11,000	5,100	4,760	4,170
2	3,020	10,800	5,690	5,400	5,200	6,400	12,500	9,290	10,200	4,000	3,990	4,170
3	2,790	10,000	7,320	4,500	5,000	6,700	13,100	9,260	10,500	3,300	3,740	4,690
4	2,830	13,900	6,800	3,600	5,200	6,200	13,300	9,340	9,390	2,700	3,710	4,220
5	2,860	13,800	6,600	4,100	5,600	6,200	13,700	9,370	8,880	2,500	3,620	3,600
6	2,900	11,200	5,400	4,800	6,200	6,700	17,300	9,260	9,290	2,900	4,010	3,490
7	2,940	9,900	6,400	5,200	6,400	6,200	16,400	9,290	9,240	3,500	4,110	3,290
8	2,990	9,700	6,800	5,200	6,000	5,400	22,300	9,370	9,520	3,700	3,990	3,460
9	2,890	9,700	6,900	5,300	5,200	5,600	26,700	9,340	9,340	3,600	3,440	3,600
10	2,810	9,650	7,000	5,200	5,400	5,200	28,000	9,370	9,240	3,400	4,130	4,010
11	2,670	9,620	7,000	5,200	5,200	5,400	32,100	9,420	9,130	6,400	4,150	3,850
12	2,900	9,020	7,200	5,200	5,200	5,800	34,100	9,290	9,210	3,600	4,310	3,180
13	2,550	8,870	7,000	5,200	6,000	6,200	35,400	9,030	9,710	4,200	4,170	3,990
14	3,150	8,650	6,800	5,200	6,400	6,730	34,400	8,180	11,700	4,000	4,980	4,400
15	3,550	7,950	6,400	5,400	6,400	8,630	31,600	7,680	11,100	3,700	5,510	3,990
16	3,360	6,850	6,230	5,400	6,600	10,000	23,500	7,580	9,840	3,400	5,580	3,950
17	3,360	5,450	6,200	5,400	6,600	10,500	20,700	7,650	9,450	3,300	5,170	3,650
18	2,940	5,540	5,970	5,200	6,600	9,700	20,300	7,800	7,850	3,400	4,670	3,240
19	2,690	5,770	5,810	5,600	6,600	9,000	17,800	8,830	7,050	5,000	4,810	3,350
20	2,960	6,040	5,320	5,800	6,600	9,120	16,800	9,340	6,030	5,410	4,950	3,400
21	2,960	6,600	5,790	6,000	6,600	9,800	17,200	9,500	5,630	5,310	4,790	2,990
22	2,650	6,600	5,790	6,000	6,400	10,400	15,100	9,260	5,410	5,070	4,740	3,180
23	2,710	6,800	5,600	5,800	6,200	9,870	11,100	8,980	5,850	5,360	4,910	3,190
24	3,340	7,200	4,500	5,400	6,600	9,920	10,200	9,550	5,700	6,050	4,270	3,690
25	3,570	6,600	3,800	5,000	6,600	9,920	9,910	10,500	5,580	5,930	4,150	3,670
26	4,130	6,800	3,400	5,400	6,400	9,800	9,780	14,400	5,360	4,430	4,240	3,380
27	3,910	7,000	4,000	4,600	6,400	9,670	9,520	18,200	5,310	4,200	4,040	3,670
28	4,070	6,800	4,600	4,400	6,400	9,600	9,340	18,300	5,550	3,760	3,880	3,740
29	8,140	6,600	5,400	5,200	------	9,570	9,340	14,500	5,410	3,960	3,600	3,900
30	11,700	6,000	5,400	5,200	------	9,670	9,420	13,100	5,410	5,290	3,530	5,290
31	13,800	------	6,000	5,200	------	10,400	------	13,100	------	5,120	3,710	------
TOTAL	121,010	253,410	182,580	160,800	169,200	248,700	552,310	317,440	242,780	131,570	133,660	112,170
MEAN	3,904	8,447	5,890	5,187	6,043	8,023	18,410	10,240	8,093	4,244	4,312	3,739
MAX	13,800	14,600	7,320	6,000	6,600	10,500	35,400	18,300	11,700	6,400	5,580	5,290
MIN	2,550	5,450	3,400	3,600	5,000	5,200	9,340	7,580	5,310	2,500	3,440	2,990

CAL YR 1970 TOTAL 1,932,650 MEAN 5,295 MAX 24,200 MIN 2,270
WTR YR 1971 TOTAL 2,625,630 MEAN 7,194 MAX 35,400 MIN 2,500

05404500 Devils Lake near Baraboo, Wis.

LOCATION.--Lat 43°25'18", long 89°43'38", in NW 1/4 NE 1/4 sec.24, T.11 N., R.6 E., Sauk County, in Devils Lake State Park, 3.5 miles south of Baraboo.

DRAINAGE AREA.--5.64 sq mi. Area of Devils Lake, 361 acres.

PERIOD OF RECORD.--June 1922 to August 1930, June to August 1932, June 1934 to current year (fragmentary).

GAGE.--Nonrecording gage. Elevation of lake from reference mark read about twice a week except in winter. Datum of gage is 956.39 ft above mean sea level, unadjusted.

EXTREMES.--Current year: Maximum gage height observed, 8.51 ft May 3; minimum observed, 5.29 ft Dec. 13.
Period of record: Maximum gage height observed, 10.6 ft June 1, 1927; minimum observed, 1.49 ft Feb. 8, 1965.

REMARKS.--Lake has no surface outlet. Lake was ice covered Dec. 12 to Apr. 12. Add 955.00 ft to obtain elevation above mean sea level.

COOPERATION.--Observer services furnished by Ralph T. Tuttle, custodian, Devils Lake State Park.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								8.45	8.23			
2											7.17	
3								8.51		7.81		
4			5.41									6.79
5	5.77	5.55				6.43						
6							7.37					6.75
7										7.77		
8												
9			5.34						8.15		7.05	
10	5.65					6.59	7.59					
11		5.49								7.70		6.64
12							7.71	8.47			6.99	
13	5.59		5.29									
14				5.75								6.51
15						6.75	8.07					
16									7.99		7.10	
17												
18												6.37
19		5.53			5.83			8.41				
20	5.54								7.94			
21							8.21				7.02	
22										7.57		
23											6.94	
24						6.84			8.00			6.34
25												
26		5.47			6.11			8.29				
27							8.35					6.39
28	5.63									7.34		
29					------	7.09						
30					------				7.89		6.84	
31		------			------	7.29	------		------			------

05405000 Baraboo River near Baraboo, Wis.

LOCATION.--Lat 43°28'51", long 89°38'09", in NW 1/4 sec.35, T.12 N., R.7 E., Sauk County, on left bank 50 ft downstream from highway bridge, 0.3 mile downstream from Rowley Creek and 5.3 miles east of Baraboo.

DRAINAGE AREA.--600 sq mi.

PERIOD OF RECORD.--December 1913 to March 1922. September 1942 to current year.

GAGE.--Water-stage recorder. Datum of gage is 788.21 ft above mean sea level. Dec. 18, 1913, to Mar. 31, 1922, nonrecording gage at bridge 2.3 miles upstream at datum 7.6 ft higher. Sept. 24, 1942, to June 10, 1963, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--36 years (1914-21, 1942-current year), 358 cfs (8.10 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,040 cfs Mar. 16 (gage height, 13.84 ft); minimum, 102 cfs Sept. 17 (gage height, 6.39 ft).

Period of record: Maximum discharge observed, 7,900 cfs Mar. 26, 1917 (gage height, 17.5 ft, estimated, site and datum then in use), from rating curve extended above 6,000 cfs; minimum observed, 9 cfs Feb. 17, 1944 (gage height, 5.08 ft); minimum daily, 26 cfs Oct. 6, 1950.

Flood of Aug. 6, 1935, reached a stage of 15.8 ft, from floodmarks, site and datum in use in 1922 (discharge, 5,100 cfs).

REMARKS.--Records good except those for winter period, which are fair. Diurnal regulation from four powerplants at Baraboo.

REVISIONS (WATER YEARS).--WSP 455: 1915. WSP 505: 1917(M). WSP 975: Drainage area. WSP 1438: 1914-15(M), 1916-17, 1918-20(M), 1944(M), 1949(M). WSP 1728: Drainage area. WSP 1914: 1948, 1950, 1956.

Rating table (gage height, in feet, and discharge, in cubic feet per s-cond).
(Shifting-control method used Mar. 16 to Apr. 25; stage-discharge relation affected by ice Dec. 13 to Mar. 10.)

6.5	126	11.0	1,180
7.0	226	13.0	1,740
8.0	436	14.0	2,060
9.0	675		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	178	190	202	180	130	640	1,560	380	261	186	170	150
2	168	200	205	180	130	590	1,640	347	254	174	168	150
3	158	220	211	180	140	540	1,460	320	250	172	158	150
4	148	200	225	180	140	500	1,430	309	238	170	158	150
5	142	190	226	180	140	460	1,400	324	236	166	154	164
6	142	180	208	180	140	420	1,290	322	226	164	144	158
7	128	180	187	180	140	390	1,060	322	220	164	152	148
8	130	180	197	180	140	350	868	320	214	230	152	158
9	144	190	193	170	140	340	798	294	230	238	144	154
10	152	180	176	170	140	330	760	267	282	230	152	154
11	166	170	295	170	150	316	738	252	275	234	170	225
12	154	170	190	160	160	309	925	242	236	230	186	232
13	154	160	190	160	160	354	1,220	232	216	212	178	210
14	152	160	190	160	160	706	1,160	226	204	194	372	180
15	148	160	180	150	160	1,670	978	222	200	196	476	166
16	136	160	180	150	170	1,960	950	220	204	186	598	154
17	156	170	180	150	180	1,770	1,040	212	230	170	688	148
18	160	200	180	150	190	1,700	855	210	204	170	683	156
19	150	196	170	150	200	1,760	668	421	160	200	486	160
20	140	218	170	150	220	1,600	563	870	204	238	265	170
21	140	263	170	150	260	1,460	486	865	170	362	200	232
22	130	320	170	160	320	1,260	445	1,000	230	410	186	292
23	140	296	170	160	500	948	414	1,170	294	324	188	190
24	150	247	190	160	540	705	376	1,230	230	242	172	168
25	150	232	190	150	520	573	347	968	228	204	172	164
26	150	230	170	150	480	486	322	620	218	186	174	168
27	290	208	160	150	460	471	320	539	226	176	174	186
28	350	191	160	150	680	560	370	462	248	174	162	212
29	290	186	170	140	------	838	383	372	236	164	152	226
30	270	193	170	140	------	1,000	387	313	210	168	152	218
31	230	------	170	140	------	1,190	------	280	------	168	146	------
TOTAL	5,296	6,039	5,845	4,980	6,890	26,196	25,103	14,131	6,834	6,502	7,532	5,384
MEAN	171	201	189	161	246	845	837	456	228	210	243	179
MAX	350	320	295	180	680	1,960	1,640	1,230	294	410	688	292
MIN	128	160	160	140	130	309	320	210	160	164	144	148
CFSM	.29	.34	.32	.27	.41	1.41	1.40	.76	.38	.35	.41	.30
IN.	.33	.37	.36	.31	.43	1.62	1.56	.88	.42	.40	.47	.33

CAL YR 1970 TOTAL 85,966 MEAN 236 MAX 1,640 MIN 75 CFSM .39 IN 5.33
WTR YR 1971 TOTAL 120,722 MEAN 331 MAX 1,960 MIN 128 CFSM .55 IN 7.48

NOTE.--No gage-height record Oct. 18 to Nov. 18.

05406050 Fish Lake near Sauk City, Wis.

LOCATION.--Lat 43°17'02", long 89°39'15", in NE 1/4 SW 1/4 sec.3, T.9 N., R.7 E., Dane County, on south side of lake near Ganser's Tavern and Dance Hall, 0.4 mile southwest of Crystal Lake, and 3.1 miles east of Sauk City, Wis. Prior to Apr. 24, 1969, at site on west side of lake.

DRAINAGE AREA.--3.79 sq mi. Area of Fish Lake, 252 acres.

PERIOD OF RECORD.--November 1966 to current year (fragmentary).

GAGE.--Nonrecording gage in lake bed. Altitude of gage is 853 ft (from topographic map).

EXTREMES.--Current year: Maximum gage height observed, 4.29 ft May 5; minimum observed, 3.34 ft Sept. 24, 30.
Period of record: Maximum gage height observed, 4.85 ft July 10, 1969; minimum observed, 3.02 ft Aug. 29, 1970.

REMARKS.--Lake has no surface outlet. Lake ice covered December to March.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1												
2												
3	3.47									3.77		3.47
4			3.53									3.47
5								4.29	4.07			
6	3.57											
7		3.59									3.52	
8												
9												
10	3.57									3.76		
11			3.53									3.45
12									4.01			
13								4.19				
14		3.57									3.61	
15				3.64								
16	3.49											
17										3.66		
18									4.13			3.41
19					3.66							
20												
21		3.59									3.51	
22								4.09				
23												
24	3.45									3.63		3.34
25												
26						4.09			3.95			
27												
28		3.52									3.49	
29					------			4.09				
30					------							3.34
31	3.63	------			------		------		------	3.55		------

05406500 Black Earth Creek at Black Earth, Wis.

LOCATION.--Lat 43°08'03", long 89°43'56", in SW 1/4 sec.25, T.8 N., R.6 E., Dane County, on right bank, 0.8 mile east of Black Earth and 2.1 miles upstream from Vermont Creek.

DRAINAGE AREA.--46.4 sq mi (includes 3.6 sq mi without surface drainage).

PERIOD OF RECORD.--February 1954 to current year.

GAGE.--Water-stage recorder. Datum of gage is 812.95 ft above mean sea level.

AVERAGE DISCHARGE.--17 years, 28.5 cfs (8.34 inches per year).

EXTREMES.--Current year: Maximum discharge, 196 cfs Mar. 15 (gage height, 3.24 ft); minimum, 10 cfs Jan. 4, result of freezeup.

Period of record: Maximum discharge, 1,750 cfs July 3, 1954 (gage height, 6.58 ft); minimum, 4.8 cfs Nov. 29, 1958 (gage height, 1.39 ft), result of freezeup.

REMARKS.--Records good.

Rating tables (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Sept. 17-30; stage-discharge relation affected by ice Dec. 5, 24, Jan. 5, 26, 27, 31, Feb. 1, 2.)

Oct. 1 to Dec. 11		Dec. 11 to Sept. 30			
1.7	17	1.7	18	2.4	18
2.0	40	2.0	43	2.9	145

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	26	21	22	21	42	62	38	32	26	27	27
2	23	26	21	22	21	40	52	38	34	24	28	27
3	23	26	21	22	22	38	49	37	32	25	27	26
4	22	27	21	22	22	36	47	38	31	26	26	27
5	21	26	21	22	23	35	44	38	31	27	26	28
6	22	25	30	22	21	36	43	36	31	26	26	26
7	25	26	20	22	21	33	42	35	30	25	26	26
8	23	23	20	22	20	32	45	36	29	30	25	26
9	25	24	20	22	22	30	43	37	28	28	25	25
10	24	24	22	22	22	30	38	35	28	28	28	25
11	23	23	35	22	22	29	42	35	28	27	28	27
12	22	23	21	22	21	30	47	35	28	26	27	27
13	22	22	21	22	20	36	54	34	28	26	25	26
14	22	22	20	22	19	91	51	33	28	25	32	25
15	21	21	21	22	19	135	44	33	27	26	27	25
16	21	21	21	22	19	71	48	33	26	28	27	25
17	21	21	21	22	20	62	51	33	26	32	26	24
18	21	21	21	22	22	59	46	33	26	29	27	25
19	21	21	21	22	37	51	45	33	25	27	26	28
20	21	25	21	23	51	48	43	32	34	27	26	27
21	20	23	21	22	43	48	41	32	27	27	26	25
22	20	22	22	21	40	46	39	30	28	25	26	25
23	20	27	20	21	37	43	38	30	30	27	32	25
24	21	21	19	21	34	40	37	33	28	28	27	24
25	21	21	22	21	32	39	36	33	30	28	27	24
26	20	21	22	22	39	39	36	32	28	28	27	25
27	28	21	21	22	52	42	45	32	28	27	26	25
28	38	21	21	22	45	58	41	31	26	27	26	23
29	32	21	21	22	------	68	39	31	26	27	26	24
30	30	21	20	21	------	67	39	31	26	28	25	24
31	28	------	21	21	------	71	------	31	------	27	25	------
TOTAL	724	690	670	677	787	1,525	1,327	1,048	859	837	828	766
MEAN	23.4	23.0	21.6	21.8	28.1	49.2	44.2	33.8	28.6	27.0	26.7	25.5
MAX	38	27	35	23	52	135	62	38	34	32	32	28
MIN	20	21	19	21	19	29	36	30	25	24	25	23
CFSM	.50	.50	.47	.47	.61	1.06	.95	.73	.62	.58	.58	.55
IN.	.58	.55	.54	.54	.63	1.22	1.06	.84	.69	.67	.66	.61

CAL YR 1970 TOTAL 8,324 MEAN 22.8 MAX 88 MIN 14 CFSM .49 IN 6.67
WTR YR 1971 TOTAL 10,738 MEAN 29.4 MAX 135 MIN 19 CFSM .63 IN 8.61

PEAK DISCHARGE (BASE, 200 CFS).--No Peak above base.

05406640 Otter Creek near Highland, Wis.

LOCATION.--Lat 43°01'42", long 90°16'38", in NE 1/4 sec.5, T.6 N., R.2 E., Iowa County, on left bank 50 ft upstream from bridge on town road, 0.3 mile downstream from recreation reservoir outlet, 0.4 mile upstream from unnamed tributary, 2.2 miles upstream from Flint Creek and 5.3 miles southeast of Highland.

DRAINAGE AREA.--16.6 sq mi.

PERIOD OF RECORD.--May 1968 to June 1969, August 1970 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 840 ft (from topographic map). Prior to August 1970 at site 100 ft upstream.

EXTREMES.--August to September 1970: Maximum discharge during period, 27 cfs Sept. 9 (gage height, 1.47 ft); minimum, 0.07 cfs Aug. 27 (gage height, 0.57 ft, result of shutdown of dam outlet).

Water year 1971: Maximum discharge, 46 cfs Apr. 16 (gage height, 1.72 ft); minimum, 1.4 cfs Oct. 4 (gage height, 0.88 ft).

Period of record: Maximum discharge, 148 cfs Mar. 17, 1969 (gage height, 3.72 ft); minimum, 0.07 cfs Aug. 27, 1970 (gage height, 0.57 ft, result of shutdown of dam outlet).

REMARKS.--Records fair. Flow regulated by Black Hawk Lake reservoir 0.3 mile upstream. Pool surface area of reservoir is 222 acres. Supplemental discharge measurements on Narvison Branch which enters Otter Creek 0.5 mile downstream, are obtained to provide additional data for the drainage basin.

Narvison Branch discharge measurements

Nov. 11, 1970......	0.62	Mar. 4......	.84	July 22......	1.0
Dec. 17............	.62	Apr. 22......	1.9	Aug. 24......	1.2
Jan. 26, 1971......	.61	June 4......	1.4	Sept. 23.....	1.4

DISCHARGE, IN CUBIC FEET PER SECOND, AUGUST TO SEPTEMBER 1970

DAY	AUG.	DAY	SEPT.	DAY	SEPT.	DAY	SEPT.	DAY	SEPT.	DAY	SEPT.
26	.14	1	.10	7	.13	13	2.2	19	2.4	25	2.4
27	.08	2	.10	8	.14	14	2.2	20	2.3	26	2.3
28	.09	3	.11	9	2.3	15	2.8	21	2.1	27	2.3
29	.09	4	.10	10	1.3	16	2.1	22	2.2	28	2.2
30	.09	5	.10	11	2.3	17	2.3	23	2.6	29	2.2
31	.09	6	.94	12	2.3	18	2.3	24	2.3	30	2.3

TOTAL........	51.42
MEAN........	1.71
MAX........	2.8
MIN........	.10
CFSM........	.10
IN........	.12

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	2.6	2.8	2.4	2.8	2.8	3.3	14	16	20	4.9	4.9
2	2.0	2.6	2.6	2.4	2.8	2.8	3.3	14	16	20	4.5	5.0
3	1.9	2.6	2.7	2.4	2.9	2.8	3.3	13	16	20	4.5	4.8
4	1.7	2.6	2.7	2.4	2.9	2.8	3.3	13	16	20	4.7	5.2
5	1.9	2.6	2.7	2.4	2.9	2.8	3.3	13	16	20	4.6	5.0
6	2.2	2.6	2.8	2.6	2.9	2.8	3.2	13	16	20	4.7	5.1
7	2.3	2.6	2.8	2.6	2.9	2.8	3.2	13	18	20	4.8	5.1
8	2.3	2.6	2.6	2.6	2.9	2.8	3.2	13	19	20	5.2	5.1
9	2.3	2.6	2.4	2.6	2.9	2.8	3.1	13	19	20	5.1	5.2
10	2.3	2.6	2.6	2.5	2.9	2.8	3.1	13	19	20	5.1	5.1
11	2.1	2.6	2.4	2.5	2.9	2.8	3.1	13	19	20	5.3	5.1
12	2.2	2.6	2.4	2.6	2.9	2.8	3.3	13	19	20	5.2	5.1
13	2.3	2.6	2.4	2.6	2.9	2.9	4.5	13	19	21	5.1	5.1
14	2.4	2.6	2.4	2.6	2.8	3.6	6.7	15	19	21	5.0	5.1
15	2.4	2.6	2.3	2.6	2.8	3.0	6.7	15	19	17	4.8	5.1
16	2.4	2.6	2.4	2.6	2.8	2.9	8.8	15	18	14	4.7	5.1
17	2.5	2.6	2.4	2.6	2.8	2.9	6.7	15	18	14	4.7	5.1
18	2.5	2.6	2.4	2.7	2.9	3.0	6.6	15	20	14	4.8	5.1
19	2.5	2.6	2.4	2.6	3.4	3.0	11	17	22	14	4.8	5.2
20	2.6	2.6	2.4	2.6	3.1	2.8	14	16	23	14	5.0	5.1
21	2.5	2.3	2.4	2.6	2.8	2.9	14	16	22	15	5.0	4.6
22	2.5	2.6	2.4	2.6	2.8	2.8	14	16	22	9.4	5.0	4.2
23	2.5	2.8	2.4	2.6	2.7	2.8	14	16	22	6.4	4.8	4.2
24	2.4	2.8	2.4	2.6	2.7	2.8	14	16	21	6.7	4.8	2.8
25	2.4	2.7	2.4	2.7	2.8	2.8	14	16	21	6.7	5.0	1.9
26	2.3	2.8	2.4	2.7	3.3	2.8	14	15	21	6.4	4.9	1.9
27	2.3	2.7	2.4	2.7	2.8	2.9	14	15	21	6.4	5.0	1.9
28	2.3	2.6	2.4	2.8	2.7	2.9	14	15	20	5.7	4.8	1.9
29	2.3	2.6	2.4	2.7	------	3.2	14	15	20	4.5	4.8	2.0
30	2.3	2.6	2.4	2.8	------	3.3	14	15	20	4.5	4.9	2.0
31	2.4	------	2.4	2.8	------	3.3	------	16	------	4.7	4.9	------
TOTAL	71.0	78.5	77.0	80.5	80.7	90.2	243.7	450	577	445.4	151.4	129.0
MEAN	2.29	2.62	2.48	2.60	2.88	2.91	8.12	14.5	19.2	14.4	4.88	4.30
MAX	2.6	2.8	2.8	2.8	3.4	3.6	14	17	23	21	5.3	5.2
MIN	1.7	2.3	2.3	2.4	2.7	2.8	3.1	13	16	4.5	4.5	1.9
CFSM	.14	.16	.15	.16	.17	.18	.49	.87	1.16	.87	.29	.26
IN.	.16	.18	.17	.18	.18	.20	.55	1.01	1.29	1.00	.34	.29

WTR YR 1971 TOTAL 2,474.4 MEAN 6.78 MAX 23 MIN 1.7 CFSM .41 IN 5.55

05407000 Wisconsin River at Muscoda, Wis.

LOCATION.--Lat 43°11'54", long 90°26'26", in NW 1/4 sec.1, T.8 N., R.1 W., Grant County, on left bank at bridge on State Highway 80, 0.5 mile upstream from Eagle Mill Creek and 1.0 mile north of Muscoda.

DRAINAGE AREA.--10,300 sq mi, approximately.

PERIOD OF RECORD.--December 1902 to December 1903, October 1913 to current year. Monthly discharge only for October and November 1913, published in WSP 1308. Gage-height records collected at same site November 1908 to December 1912 are contained in reports of U.S. Weather Bureau.

GAGE.--Water-stage recorder. Datum of gage is 667.05 ft above mean sea level. Prior to Nov. 22, 1929, nonrecording gage on bridge 200 ft upstream at same datum. Nov. 22, 1929, to Mar. 15, 1930, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--58 years (1913-71), 8.69 cfs.

EXTREMES.--Current year: Maximum discharge, 39,100 cfs Apr. 16 (gage height, 8.00 ft); minimum, 3,500 cfs Sept. 10 (gage height, 0.85 ft); minimum daily, 4,010 cfs Sept. 24.

Period of record: Maximum discharge, 80,800 cfs Sept. 16, 1938 (gage height, 11.48 ft); minimum daily, 2,000 cfs Feb. 11, 1918.

REMARKS.--Records good except those for winter periods, which are fair. Flow regulated by 23 reservoirs and many powerplants above station (see p. 130). In 1938 when the maximum of record occurred, there were 21 reservoirs above station, the two large reservoirs, Petenwell and Castle Rock not yet in existence. Usually less than about 5 cfs was diverted out of basin through Portage canal to Fox River throughout the year.

REVISIONS (WATER YEARS).--WSP 785: 1921 (m). WSP 875: 1921. WSP 1308: 1915 (M), 1917-18 (M), 1920-21 (M), 1924 (M).

Rating table (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 22 to Mar. 27.)

1.0	3,910	3.0	11,000
1.4	5,080	4.0	15,300
2.0	7,080	6.0	25,000
		8.0	39,100

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6,900	12,600	9,690	7,000	7,400	10,000	14,900	11,500	14,400	6,940	5,800	4,540
2	4,930	15,200	8,730	7,200	7,400	10,000	16,000	11,500	13,800	5,920	6,040	4,330
3	5,080	14,800	8,150	7,600	7,400	9,600	16,200	11,600	13,100	5,880	6,240	4,900
4	4,340	13,300	8,810	7,600	7,400	9,200	16,700	11,400	12,200	5,020	5,500	5,250
5	4,710	13,200	10,000	7,200	7,400	10,000	17,700	11,400	11,500	4,790	4,800	5,180
6	4,570	14,700	12,400	6,400	7,400	10,000	16,800	11,400	9,970	4,440	4,090	5,640
7	4,630	14,300	11,500	5,400	7,600	10,000	17,200	11,200	10,600	4,660	4,150	4,950
8	4,800	13,200	7,860	5,600	9,000	10,000	19,700	10,900	10,600	4,160	4,910	4,890
9	4,800	12,800	8,340	6,000	8,600	9,600	19,500	10,900	10,400	5,160	4,730	4,460
10	4,650	11,900	9,330	6,800	8,400	9,000	21,900	11,000	10,500	5,580	5,210	4,120
11	4,160	11,600	9,450	7,200	7,800	8,400	24,700	10,700	10,300	4,940	4,730	4,420
12	4,600	11,300	7,150	7,400	7,400	8,400	28,300	10,700	10,100	4,700	4,890	4,670
13	4,130	11,700	7,270	7,600	7,400	8,400	31,200	10,200	10,200	4,500	4,860	4,740
14	4,450	10,800	9,450	7,600	7,400	8,600	34,700	11,300	10,200	4,800	5,390	4,230
15	4,250	9,770	10,200	7,400	7,800	9,000	37,500	10,200	11,000	4,800	7,160	4,320
16	4,800	9,930	9,210	7,400	8,600	11,000	38,300	8,820	11,700	5,400	6,120	4,980
17	4,830	9,490	8,770	7,600	9,600	14,000	36,500	9,550	11,800	4,670	6,470	4,970
18	4,800	8,490	8,530	7,000	9,600	14,000	31,200	9,190	10,500	4,800	6,780	4,400
19	4,740	7,410	8,380	7,600	9,800	13,000	25,200	10,700	9,400	4,600	6,260	4,700
20	4,650	7,970	8,010	7,800	10,000	13,000	23,100	9,050	9,470	5,200	5,890	4,700
21	4,420	7,990	8,490	7,800	10,000	13,000	21,200	11,800	8,980	5,570	6,080	4,220
22	4,570	8,930	7,200	8,000	10,000	13,000	20,300	11,700	7,460	5,840	6,600	4,240
23	4,280	8,270	6,800	8,400	10,000	13,000	18,900	11,300	6,720	5,950	5,310	4,450
24	4,990	10,200	7,400	8,400	10,000	13,000	16,100	11,300	7,950	6,620	6,380	4,010
25	4,020	9,650	7,800	8,400	9,800	13,000	14,500	11,500	7,680	6,510	5,540	4,040
26	5,140	8,040	7,400	8,200	10,000	13,000	12,400	12,100	7,960	6,960	5,400	4,550
27	5,490	7,490	6,600	7,800	11,000	13,500	12,500	12,900	6,610	6,020	5,160	5,220
28	6,830	9,170	6,000	7,600	10,000	14,400	12,400	14,900	6,450	5,710	4,780	4,750
29	7,080	9,010	5,600	7,400	------	13,900	12,000	17,800	6,830	4,970	4,770	4,490
30	7,860	9,250	5,800	7,400	------	13,800	11,500	19,000	6,760	4,390	4,900	4,890
31	9,980	------	6,400	7,200	------	13,700	------	15,200	------	5,180	4,510	------
TOTAL	159,480	322,360	257,120	228,000	243,200	352,500	639,100	362,610	295,140	164,680	169,450	139,250
MEAN	5,145	10,750	8,294	7,355	8,686	11,370	21,300	11,700	9,838	5,312	5,466	4,642
MAX	9,980	15,200	12,400	8,400	11,000	14,400	38,300	19,000	14,400	6,960	7,160	5,640
MIN	4,020	7,410	5,600	5,400	7,400	8,400	11,500	8,820	6,450	4,160	4,090	4,010

CAL YR 1970 TOTAL 2,673,690 MEAN 7,325 MAX 24,800 MIN 3,390
WTR YR 1971 TOTAL 3,332,890 MEAN 9,131 MAX 38,300 MIN 4,010

05408000 Kickapoo River at La Farge, Wis.

LOCATION.--Lat 43°34'27", long 90°38'35", on east-west quarter section line in W 1/2 sec.29, T.13 N., R.2 W., Vernon County, on left bank 10 ft upstream from bridge on State Highway 82, in La Farge, 0.3 mile upstream from Otter Creek, and 1.3 miles downstream from powerplant.

DRAINAGE AREA.--266 sq mi.

PERIOD OF RECORD.--October 1938 to current year.

GAGE.--Water-stage recorder. Datum of gage is 782.00 ft above mean sea level, adjustment of 1912. Prior to Dec. 4, 1939, nonrecording gage on highway bridge at same datum.

AVERAGE DISCHARGE.--33 years, 165 cfs (8.43 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,340 cfs Apr. 1 (gage height, 7.61 ft); minimum daily, 79 cfs Oct. 8.

Period of record: Maximum discharge, 9,910 cfs Feb. 9, 1966 (gage height, 13.67 ft); minimum, 1.8 cfs Mar. 24, 1951; minimum daily, 36 cfs Nov. 3, 1939.

REMARKS.--Records good except those for winter months, which are fair. Considerable diurnal fluctuation caused by operation of powerplant 1.3 miles upstream.

REVISIONS (WATER YEARS).--WSP 1388: 1951(M), 1954(M). WSP 1438: 1944-45(M), 1946, 1948, 1950(M).

Rating table (gage height, in feet, and discharge, in cubic feet per second).
(Period of ice effect, Nov. 24, 25, Dec. 10 to Mar. 14.)

Oct. 1 to Mar. 15				Mar. 16 to Sept. 30			
1.5	43	4.0	403	1.8	73	4.0	420
2.0	85	5.0	623	2.0	96	5.0	629
2.5	143	6.0	873	2.5	162	6.0	874
3.0	218			3.0	239	7.0	1,170

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	98	144	133	110	88	190	999	172	139	123	99	90
2	99	133	120	110	90	190	450	168	185	116	106	90
3	102	141	136	110	92	170	333	155	165	100	88	89
4	95	205	134	100	86	180	306	162	143	106	88	82
5	93	182	131	100	94	200	304	223	156	114	85	89
6	95	142	97	96	93	190	329	176	132	109	91	88
7	140	136	124	92	86	170	380	156	197	106	85	85
8	79	123	140	88	80	160	406	140	229	194	99	88
9	96	140	129	100	82	160	429	136	136	166	83	89
10	112	180	120	100	86	160	352	154	131	112	97	188
11	92	148	120	96	90	190	288	139	135	116	136	136
12	125	125	120	96	90	220	317	136	132	118	114	99
13	104	147	120	98	86	290	365	142	135	121	86	99
14	110	136	110	98	96	420	273	139	139	109	553	97
15	104	117	96	92	100	843	239	125	128	108	324	91
16	98	116	110	92	110	514	233	135	117	102	140	88
17	106	120	120	94	120	342	229	135	118	108	116	92
18	104	110	120	93	130	322	217	204	112	112	99	84
19	97	117	110	90	190	279	194	566	116	156	84	91
20	138	180	100	92	300	260	190	280	279	121	116	113
21	92	202	110	94	270	261	186	209	168	109	91	106
22	104	188	120	94	230	295	179	182	130	91	96	89
23	115	117	120	92	210	205	172	172	131	106	125	102
24	133	120	110	90	200	196	169	280	117	112	117	94
25	170	130	113	92	200	168	159	278	215	109	96	94
26	128	134	100	93	220	180	163	215	143	96	97	106
27	255	137	100	88	240	174	170	188	132	97	92	126
28	314	142	100	88	210	288	218	170	125	114	86	104
29	235	118	110	100	------	335	196	151	116	102	92	105
30	165	120	110	92	------	363	162	154	114	100	94	122
31	156	------	120	86	------	565	------	165	------	88	81	------
TOTAL	3,926	4,245	3,588	2,950	3,974	8,436	8,578	5,805	4,394	3,538	3,754	3,006
MEAN	127	142	116	95.2	142	272	286	187	146	114	121	100
MAX	314	205	140	110	300	843	999	566	279	194	553	188
MIN	79	110	96	86	80	160	159	125	112	88	81	82
CFSM	.48	.53	.44	.36	.53	1.02	1.08	.70	.55	.43	.45	.38
IN.	.55	.59	.50	.41	.55	1.18	1.20	.81	.61	.49	.52	.42

CAL YR 1970 TOTAL 50,712 MEAN 139 MAX 909 MIN 68 CFSM .52 IN 7.09
WTR YR 1971 TOTAL 56,194 MEAN 154 MAX 999 MIN 79 CFSM .58 IN 7.86

PEAK DISCHARGE (BASE, 1,700 CFS).--No peak above base.

05409830 North Fork Nederlo Creek near Gays Mills, Wis.

LOCATION.--Lat 43°21'47", long 90°54'34", in NE 1/4 sec.12, T.10 N., R.5 W., Crawford County, on right bank 160 ft upstream from town-road bridge, 0.3 mile above the confluence with South Fork Nederlo Creek, and 4.5 miles northwest of Gays Mills.

DRAINAGE AREA.--2.3 sq mi.

PERIOD OF RECORD.--October 1967 to current year.

GAGE.--Water-stage recorder. Concrete control since Oct. 8, 1968. Altitude of gage is 800 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 4.3 cfs June 20 (gage height, 11.37 ft); minimum, 0.34 cfs Feb. 22 (gage height, 10.65 ft), result of freezeup.

Period of record: Maximum discharge, 541 cfs June 23, 1968 (gage height, 14.60 ft) from rating curve extended above 3 cfs on basis of contracted-opening measurement made at 14.60 ft, computation of flow through culvert made at gage height 13.80 ft and slope-area measurement made at gage height 13.10 ft; minimum, 0.34 cfs Feb. 22, 1971 (gage height, 10.65 ft), result of freezeup.

REMARKS.--Records fair.

REVISIONS (WATER YEARS.--WRD Wis. 1970: Drainage area.

Rating table (gage height, in feet, and discharge, in cubic feet per second). (Stage-discharge relation affected by ice Dec. 24, 28, 29, Jan. 4, 6-11, 14, 15, 20, 27, 28, Jan. 31 to Feb. 2, Feb. 5.)

10.7	0.46	10.9	1.2
10.8	.80		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.66	.73	.73	.63	.60	.77	.95	.73	.70	.63	.60	.63
2	.66	.77	.73	.63	.60	.77	.88	.73	.70	.60	.63	.63
3	.66	.80	.73	.63	.60	.77	.88	.70	.66	.60	.60	.63
4	.66	.77	.73	.63	.63	.77	.84	.80	.66	.60	.60	.63
5	.66	.77	.70	.60	.63	.73	.80	.77	.66	.63	.60	.66
6	.66	.73	.66	.60	.63	.73	.80	.73	.66	.60	.60	.63
7	.66	.73	.66	.60	.63	.73	.80	.73	.77	.60	.60	.63
8	.63	.73	.66	.60	.63	.73	.77	.73	.66	.60	.60	.66
9	.77	.80	.70	.60	.63	.73	.77	.70	.66	.60	.60	.73
10	.66	.77	.70	.60	.63	.70	.77	.70	.66	.63	.60	.70
11	.66	.77	.70	.60	.63	.70	.77	.70	.66	.63	.60	.66
12	.66	.73	.70	.60	.66	.73	.99	.70	.66	.66	.60	.66
13	.63	.77	.66	.60	.66	.84	.91	.66	.66	.63	.60	.66
14	.60	.77	.66	.60	.66	1.0	.84	.66	.70	.63	.66	.66
15	.60	.77	.66	.60	.66	1.0	.80	.66	.66	.70	.63	.66
16	.60	.77	.66	.60	.66	.95	.80	.66	.66	.63	.60	.63
17	.60	.77	.63	.60	.66	.88	.80	.66	.66	.63	.60	.60
18	.60	.77	.66	.60	.84	.91	.77	.97	.66	.63	.60	.60
19	.60	.80	.66	.60	1.2	.88	.77	.91	.70	.63	.63	.70
20	.60	.86	.66	.60	1.1	.86	.77	.77	1.1	.60	.63	.66
21	.60	.80	.63	.60	.91	.86	.95	.73	.73	.60	.63	.63
22	.63	.77	.63	.60	.88	.90	.84	.73	.70	.60	.66	.63
23	.63	.77	.63	.60	.84	.80	.80	.73	.66	.60	.66	.63
24	.73	.73	.63	.60	.80	.77	.77	.80	.73	.60	.66	.63
25	.66	.73	.63	.60	.80	.77	.77	.73	.70	.60	.63	.66
26	.70	.73	.66	.60	.84	.77	.73	.73	.66	.60	.63	.66
27	.86	.73	.63	.60	.84	.84	.80	.70	.63	.63	.63	.66
28	.80	.73	.63	.60	.80	.91	.80	.70	.63	.63	.63	.66
29	.73	.73	.60	.60	------	.91	.77	.70	.63	.63	.63	.66
30	.77	.77	.60	.60	------	.91	.73	.70	.63	.63	.63	.66
31	.73	------	.60	.60	------	.95	------	.70	------	.63	.63	------
TOTAL	20.65	22.91	20.52	18.72	20.65	25.43	24.44	22.62	20.61	19.21	19.20	19.50
MEAN	.67	.76	.66	.60	.74	.82	.81	.73	.69	.62	.62	.65
MAX	.86	.86	.73	.63	1.2	1.0	.99	.97	1.1	.70	.66	.73
MIN	.60	.73	.60	.60	.60	.70	.73	.66	.63	.60	.60	.60
CFSM	.29	.33	.29	.26	.32	.36	.35	.32	.30	.27	.27	.28
IN.	.33	.37	.33	.30	.33	.41	.40	.37	.33	.31	.31	.32

CAL YR 1970 TOTAL 255.39 MEAN .70 MAX 2.3 MIN .60 CFSM .30 IN 4.13
WTR YR 1971 TOTAL 254.36 MEAN .70 MAX 1.2 MIN .60 CFSM .30 IN 4.11

05409890 Nederlo Creek near Gays Mills, Wis.

LOCATION.--Lat 43°21'43", long 90°52'44", in NW 1/4 sec.8, T.10 N., R.4 W., Crawford County, on right bank just upstream from bridge on private road, 1.2 miles upstream from Tainter Creek and 3.4 miles north of Gays Mills.

DRAINAGE AREA.--9.6 sq mi.

PERIOD OF RECORD.--October 1967 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 740 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 34 cfs June 20 (gage height, 11.53 ft); minimum daily, 3.6 cfs Aug. 13, 28.

Period of record: Maximum discharge, 2,600 cfs June 23, 1968 (gage height, 17.06 ft) from rating curve extended above 20 cfs on basis of slope-area measurement at site 1.2 miles upstream at gage height 17.06 ft, computation of flow through culvert at gage height 14.80 ft, and slope-area measurement made at gage height 13.36 ft; minimum, 1.7 cfs Feb. 16, 1968 (gage height, 10.78 ft), result of freezeup.

REMARKS.--Records fair. Hydrologic studies are being made in the Nederlo Creek basin and additional data at upstream sites are available.

REVISIONS (WATER YEARS).--WRD Wis. 1970: Drainage area.

Rating table (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 22, Dec. 9, 10, 14-19, 24-27, Jan. 3, 4, 6-8, Jan. 26 to Feb. 2, Feb. 5-10.)

10.7	3.4	11.0	7.0
10.8	4.2	11.1	9.4
10.9	5.3		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	4.5	4.4	4.0	3.9	4.3	6.0	4.9	4.3	4.1	3.9	3.7
2	4.2	4.6	4.3	4.0	3.9	4.3	5.1	4.8	4.3	4.0	3.9	3.7
3	4.1	4.9	4.3	4.1	3.9	4.3	5.0	4.6	4.2	4.1	3.9	3.7
4	4.1	4.8	4.3	4.2	3.9	4.2	4.8	5.2	4.1	4.2	3.8	3.7
5	4.1	4.6	4.2	4.2	3.9	4.2	4.8	5.0	4.1	4.2	3.8	3.8
6	4.1	4.6	4.2	4.2	3.9	4.2	4.6	4.8	4.2	4.1	3.8	3.8
7	4.1	4.6	4.2	4.2	3.9	4.2	4.8	4.6	5.6	4.1	3.8	3.9
8	4.1	4.5	4.2	4.2	3.8	4.2	4.8	4.6	4.2	4.1	3.8	3.9
9	4.5	5.1	4.2	4.2	3.8	4.2	4.6	4.6	4.2	4.1	3.7	4.2
10	4.2	4.9	4.2	4.1	3.8	4.2	4.6	4.5	4.2	4.1	3.8	4.1
11	4.2	4.6	4.2	4.0	3.7	4.2	4.6	4.5	4.3	4.1	3.7	3.9
12	4.3	4.6	4.2	4.0	3.7	4.3	6.9	4.4	4.2	4.2	3.7	3.9
13	4.2	4.6	4.2	4.1	3.7	4.8	5.2	4.4	4.3	4.2	3.6	3.8
14	4.2	4.5	4.1	4.0	3.7	7.5	4.9	4.4	4.3	4.1	4.0	3.9
15	4.2	4.5	3.9	4.0	3.7	6.8	4.9	4.3	4.2	4.4	3.7	3.8
16	4.2	4.5	3.9	4.0	3.7	5.5	4.9	4.3	4.2	4.0	3.7	3.8
17	4.2	4.5	4.0	4.0	3.8	5.1	4.8	4.3	4.2	4.0	3.8	3.7
18	4.2	4.5	4.0	4.0	4.2	5.3	4.8	6.5	4.2	3.9	3.7	3.8
19	4.2	4.8	4.1	4.0	5.5	5.2	4.8	6.1	4.4	3.9	3.7	4.0
20	4.2	5.1	4.1	4.2	5.2	5.0	4.6	4.6	7.8	3.9	3.7	3.8
21	4.2	4.6	4.1	3.9	4.8	4.9	5.6	4.5	4.1	3.9	3.7	3.9
22	4.2	4.5	4.2	3.9	4.6	4.8	5.0	4.5	4.1	3.8	3.9	3.8
23	4.2	4.4	4.1	3.8	4.4	4.6	5.0	4.5	4.1	3.8	3.9	3.8
24	4.9	4.3	4.1	3.8	4.4	4.5	5.0	4.9	5.0	3.8	3.8	3.8
25	4.3	4.3	4.1	3.8	4.3	4.6	5.0	4.6	4.4	3.9	3.7	3.9
26	4.5	4.3	4.1	3.8	4.5	4.5	4.8	4.5	4.2	3.9	3.7	3.9
27	5.3	4.3	4.1	3.8	4.6	5.0	5.2	4.4	4.1	3.9	3.7	3.9
28	5.0	4.3	4.1	3.8	4.4	6.0	5.0	4.3	4.1	4.0	3.6	3.9
29	4.6	4.3	4.1	3.8	------	5.8	4.9	4.3	4.0	4.0	3.7	4.1
30	4.9	4.3	4.1	3.9	------	6.3	4.9	4.2	4.1	4.0	3.7	4.0
31	4.8	------	4.0	3.9	------	6.8	------	4.3	------	3.9	3.7	------
TOTAL	134.7	136.9	128.3	123.9	115.6	153.6	149.9	144.4	131.7	124.7	116.6	115.5
MEAN	4.35	4.56	4.14	4.00	4.13	4.95	5.00	4.66	4.39	4.02	3.76	3.85
MAX	5.3	5.1	4.4	4.2	5.5	7.5	6.9	6.5	7.8	4.4	4.0	4.2
MIN	4.1	4.3	3.9	3.8	3.7	4.2	4.6	4.2	4.0	3.8	3.6	3.7
CFSM	.45	.48	.43	.42	.43	.52	.52	.49	.46	.42	.39	.40
IN.	.52	.53	.50	.48	.45	.60	.58	.56	.51	.48	.45	.45

CAL YR 1970 TOTAL 1,496.7 MEAN 4.10 MAX 19 MIN 3.0 CFSM .43 IN 5.80
WTR YR 1971 TOTAL 1,575.9 MEAN 4.32 MAX 7.8 MIN 3.6 CFSM .45 IN 6.11

05410000 Kickapoo River at Gays Mills, Wis.

LOCATION.--Lat 43°19'10", long 90°51'08", in NE 1/4 sec.28, T.10 N., R.4 W., Crawford County, on upstream side of State Highway 171 bridge 300 ft downstream from dam in Gays Mills and 3.3 miles downstream from Taintor Creek.

DRAINAGE AREA.--616 sq mi.

PERIOD OF RECORD.--December 1913 to September 1934. Monthly discharge only July to September 1934, published in WSP 1308. April 1964 to current year.

GAGE.--Nonrecording gage. Datum of gage is 685.75 ft above mean sea level.

AVERAGE DISCHARGE.--26 years (1914-34, 1964-71), 412 cfs (9.08 inches per year).

EXTREMES.--Current year: Maximum discharge observed, 1,400 cfs Mar. 17 (gage height, 9.73 ft); minimum daily, 180 cfs Feb. 8.

Period of record: Maximum discharge, 10,600 cfs Feb. 10, 1966 (gage height, 16.00 ft); minimum observed, 48 cfs July 27, 1931 (gage height, 0.51 ft).

Flood in 1913 reached a stage of 15.2 ft, from floodmark (backwater from ice probable).

Flood in 1961 reached a stage of 16.37 ft, from floodmark.

REMARKS.--Records good except those for winter periods, which are fair. Occasional regulation caused by dam 300 ft upstream.

REVISIONS (WATER YEARS).--WSP 1438: 1915-16(M), 1917, 1918-19(M), 1920-23, 1924-26(M), 1927-30, 1931(M), 1932, 1933-34(M).

Rating table (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Oct. 1-27, May 21 to June 19; stage-discharge relation affected by ice Dec. 27 to Mar. 13.)

Oct. 1 to Aug. 16				Aug. 17 to Sept. 30	
3.3	176	6.0	550	3.8	226
4.0	260	8.0	966	4.0	246
5.0	392	10.0	1,470	4.5	302
				5.0	367

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	273	371	318	270	230	420	1,220	472	422	325	273	255
2	266	358	325	250	230	400	1,340	423	395	322	268	254
3	266	371	318	250	240	370	1,280	423	441	318	258	254
4	263	378	332	230	240	350	887	386	396	312	270	256
5	273	413	325	230	230	350	696	450	379	309	263	254
6	266	392	328	220	220	350	668	485	379	303	259	244
7	256	358	273	210	200	300	665	428	407	313	266	235
8	299	366	285	210	180	270	692	398	479	304	266	241
9	286	350	325	230	190	280	744	399	476	388	269	241
10	266	378	312	240	200	280	760	352	386	361	265	288
11	273	417	306	240	210	310	662	386	361	338	270	327
12	273	413	306	230	220	350	630	330	360	316	281	324
13	273	399	313	240	200	390	703	338	364	329	280	267
14	266	359	307	250	220	620	740	333	351	325	285	266
15	266	351	256	250	210	1,270	605	320	361	315	499	260
16	273	338	292	240	250	1,350	573	317	344	303	600	262
17	266	332	344	240	270	1,390	553	344	335	299	333	261
18	260	318	344	230	300	963	536	395	332	299	319	260
19	266	318	310	230	360	837	516	1,000	325	303	292	266
20	250	358	280	250	420	721	492	1,060	540	322	279	261
21	273	351	250	250	590	647	482	764	552	315	269	261
22	258	344	280	250	520	632	514	533	420	290	249	261
23	266	344	303	240	500	533	472	502	351	280	254	260
24	292	260	312	240	450	513	448	499	352	283	252	261
25	306	318	312	230	420	492	430	611	350	286	264	261
26	332	318	292	230	400	453	414	608	403	292	255	264
27	366	344	280	220	420	472	638	514	350	283	262	267
28	508	332	270	220	450	557	469	474	356	285	254	269
29	569	318	270	240	------	696	402	454	350	295	246	264
30	459	318	270	230	------	801	469	453	328	289	239	260
31	378	------	290	210	------	879	------	484	------	280	250	------
TOTAL	9,391	10,567	9,336	7,300	8,570	18,236	19,700	14,935	11,645	9,582	8,898	7,899
MEAN	303	352	301	235	306	588	657	482	388	309	287	263
MAX	569	417	344	270	590	1,390	1,340	1,060	552	388	600	327
MIN	250	260	250	210	180	270	414	317	325	280	239	235
CFSM	.49	.57	.49	.38	.50	.95	1.07	.78	.63	.50	.47	.43
IN.	.57	.64	.56	.44	.52	1.10	1.19	.90	.70	.58	.54	.48

CAL YR 1970 TOTAL 119,914 MEAN 329 MAX 3,000 MIN 198 CFSM .53 IN 7.24
WTR YR 1971 TOTAL 136,024 MEAN 373 MAX 1,390 MIN 180 CFSM .61 IN 8.21

05410500 Kickapoo River at Steuben, Wis.

LOCATION.--Lat 43°11'27", long 90°52'28", in NW 1/4 sec.8, T.8 N., R.4 W., Crawford County, on right bank 0.8 mile upstream from Duffy Creek, 1.0 mile northwest of Steuben and 14 miles upstream from mouth.

DRAINAGE AREA.--690 sq mi.

PERIOD OF RECORD.--May 1933 to current year.

GAGE.--Water-stage recorder. Datum of gage is 657.82 ft above mean sea level, adjustment of 1912. Prior to Oct. 20, 1938, nonrecording gage at site 1 mile upstream at datum 1.3 ft higher.

AVERAGE DISCHARGE.--38 years, 450 cfs (8.86 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,230 cfs Mar. 18 (gage height, 7.92 ft); minimum daily, 200 cfs Feb. 9.

Period of record: Maximum discharge, 10,800 cfs Mar. 28, 1961 (gage height, 12.33 ft); minimum observed, 161 cfs Aug. 9, 1936 (gage height, 0.76 ft, site and datum then in use).

REMARKS.--Records good except those for winter period, which are fair.

REVISIONS (WATER YEARS).--WSP 855: Drainage area. WSP 1438: 1933-38.

Rating table (gage height, in feet, and discharge, in cubic feet per second). (Shifting-control method used Mar. 19 to June 27; stage-discharge relation affected by ice Dec. 16 to Mar. 13.)

2.1	195	5.0	600
2.5	237	7.0	1,000
3.0	303	8.0	1,250
4.0	450		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	342	450	372	290	240	440	1,010	519	476	411	337	307
2	337	470	360	300	250	410	1,130	508	474	406	325	300
3	331	420	374	290	260	360	1,190	500	488	402	328	304
4	327	424	372	300	270	310	1,160	483	494	393	332	306
5	321	454	376	270	270	320	862	520	441	384	319	307
6	321	462	354	260	250	340	740	534	446	390	316	303
7	320	479	333	240	240	330	717	525	471	398	313	304
8	321	406	335	230	220	310	727	486	500	387	314	299
9	363	406	366	250	200	300	760	471	528	405	313	300
10	327	424	376	270	210	300	776	467	482	480	323	335
11	317	448	338	290	220	300	750	450	429	414	324	369
12	335	464	376	270	230	320	710	444	432	387	356	411
13	331	435	417	260	250	360	790	438	442	392	355	346
14	344	409	404	270	240	450	820	434	424	392	339	317
15	327	404	351	280	250	976	715	430	423	388	376	313
16	324	396	340	280	270	1,150	642	423	410	376	661	304
17	321	389	350	270	290	1,200	622	417	396	366	489	302
18	317	382	350	270	320	1,200	614	462	387	360	374	297
19	321	394	340	260	370	1,010	590	843	386	362	351	302
20	318	405	320	290	450	846	566	1,010	520	374	332	316
21	318	444	310	310	520	756	558	895	582	396	319	325
22	324	486	300	310	550	706	585	630	544	360	337	328
23	324	442	290	290	500	654	561	561	438	346	321	324
24	351	394	290	280	450	596	534	554	432	339	331	313
25	372	387	290	260	420	572	518	606	518	346	345	319
26	392	406	280	250	400	560	500	652	531	345	334	330
27	420	404	270	250	400	554	506	594	534	345	321	342
28	482	382	270	250	420	606	528	537	454	344	317	348
29	586	374	270	260	------	686	550	510	432	346	310	357
30	549	372	280	270	------	706	549	494	417	356	330	351
31	477	------	280	260	------	841	------	477	------	344	307	------
TOTAL	11,161	12,499	10,301	8,390	8,970	18,559	21,290	16,944	13,931	11,724	10,747	9,678
MEAN	360	417	332	271	320	599	709	547	464	378	347	323
MAX	586	486	417	310	550	1,200	1,190	1,010	582	480	661	411
MIN	317	372	270	230	200	300	500	417	386	339	307	297
CFSM	.52	.60	.48	.39	.46	.87	1.03	.79	.67	.55	.50	.47
IN.	.60	.67	.56	.45	.48	1.00	1.15	.91	.75	.63	.58	.52

CAL YR 1970 TOTAL 139,646 MEAN 383 MAX 1,100 MIN 259 CFSM .56 IN 7.53
WTR YR 1971 TOTAL 154,094 MEAN 422 MAX 1,200 MIN 200 CFSM .61 IN 8.31

PEAK DISCHARGE (BASE, 1,900 CFS).--No peak above base.

Reservoirs in Wisconsin River Basin

The 24 reservoirs listed below are used to stabilize the flow of the Wisconsin and Tomahawk Rivers for power utilization and are also used for recreational purposes. The first 21 reservoirs are owned and operated by the Wisconsin Valley Improvement Co., which furnished the gage heights and capacity tables. Revised capacity tables for all 21 reservoirs were received from the company in April 1957 and were used to compute month-end usable contents beginning Sept. 30, 1955. Another revised capacity table for Burnt Rollways Reservoir was used to compute month-end usable contents beginning Sept. 30, 1964. Lake Dubay is owned by the Consolidated Water Power Co. Petenwell and Castle Rock are owned and operated by the Wisconsin River Power Co., which furnished the gage heights and capacity tables for these two reservoirs. Month-end contents are computed by the U.S. Geological Survey. The usable capacity of these reservoirs is usually less in summer than in winter because the allowable summer drawdown is limited by the Department of Natural Resources in the interest of riparian property owners. There are occasionally formal or informal changes in capacity and in minimum drawdown levels. Usable capacity figures listed below are for winter regulation.

05390100 Lac Vieux Desert on Wisconsin River, lat 46°07'18", long 89°09'07", in SE 1/4 NE 1/4 sec.17, T.42 N., R.11 E., Vilas County, 4.8 miles northwest of Phelps, Wis., used as a reservoir since 1908, has a usable capacity of 652,000,000 cu ft. Drainage area, 28 sq mi. Datum of gage is 1,679.53 ft above mean sea level.

05390150 Twin Lakes on Twin River, lat 46°01'20", long 89°10'05", in SW 1/4 NE 1/4 sec.19, T.41 N., R.11 E., Vilas County, 5.0 miles southwest of Phelps, Wis., used as a reservoir since 1908, has a usable capacity of 313,000,000 cu ft. Drainage area, 26 sq mi. Altitude of gage is 1,640 ft (from river-profile map).

05390200 Buckatabon Lakes on Buckatabon Creek, lat 46°01'18", long 89°18'40", in SE 1/4 NE 1/4 sec.24, T.41 N., R.9 E., Vilas County, 3.3 miles southwest of Conover, Wis., used as a reservoir since 1908, has a usable capacity of 130,000,000 cu ft. Drainage area, 14 sq mi. Datum of gage is 1,637.85 ft above mean sea level (levels by Wisconsin Valley Improvement Co.).

05390250 Sevenmile Lake on Sevenmile Creek, lat 45°52'30", long 89°04'07", in SE 1/4 NE 1/4 sec.11, T.39 N., R.11 E., Oneida County, 9.1 miles southeast of town of Eagle River, Wis., used as a reservoir since 1908, has a usable capacity of 93,000,000 cu ft. Drainage area, 14 sq mi (revised). Datum of gage is 1,646.30 ft above mean sea level (levels by Wisconsin Valley Improvement Co.).

05390300 Lower Ninemile Lake on Ninemile Creek, lat 45°53'37", long 89°07'15", in NE 1/4 NW 1/4 sec.4, T.39 N., R.11 E., Oneida County, 6.6 miles southeast of town of Eagle River, Wis., used as a reservoir since 1908, has a usable capacity of 121,000,000 cu ft. Drainage area, 25 sq mi (revised). Datum of gage is 1,638.27 ft above mean sea level (levels by Wisconsin Valley Improvement Co.).

05390350 Burnt Rollways Reservoir on Eagle River, lat 45°53'40", long 89°08'28", in NE 1/4 NW 1/4 sec.5, T.39 N., R.11 E., Oneida County, 5.3 miles southeast of town of Eagle River, Wis., used as a reservoir since 1908, has a usable capacity of 779,000,000 cu ft (revised). This reservoir includes 18 lakes controlled by the same dam. Drainage area, 129 sq mi. Altitude of gage is 1,620 ft (from river-profile map).

05390400 Long Lake on Deerskin River, lat 46°02'37", long 89°02'44", in NW 1/4 SE 1/4 sec.7, T.41 N., R.12 E., Vilas County, 2.5 miles southeast of Phelps, Wis., used as a reservoir since 1908, has a usable capacity of 400,000,000 cu ft. Drainage area, 35 sq mi. Datum of gage is 1,695.14 ft above mean sea level (levels by Wisconsin Valley Improvement Co.).

05390600 Deerskin Lake on Little Deerskin River, lat 45°59'07", long 89°09'40", in SE 1/4 sec.31, T.41 N., R.11 E., Vilas County, 6.3 miles northeast of town of Eagle River, Wis., used as a reservoir since 1908, has a usable capacity of 22,000,000 cu ft. Drainage area, 5 sq mi. Datum of gage is 1,640.16 ft above mean sea level (levels by Wisconsin Valley Improvement Co.).

05390650 Sugar Camp Reservoir on Sugar Camp Creek, lat 45°52'19", long 89°23'40", in NE 1/4 sec.17, T.39 N., R.9 E., Oneida County, 7.6 miles southwest of town of Eagle River, Wis., used as a reservoir since 1908, has a usable capacity of 471,000,000 cu ft. Drainage area, 59 sq mi. Datum of gage is 1,591.94 ft above mean sea level (levels by Wisconsin Valley Improvement Co.).

05390700 Little St. Germain Lake on Little St. Germain Creek, lat 45°53'57", long 89°27'08", in SE 1/4 sec.35, T.40 N., R.8 E., Vilas County, 9.6 miles west of town of Eagle River, Wis., used as a reservoir since 1908, has a usable capacity of 79,000,000 cu ft. Drainage area, 19 sq mi. Datum of gage is 1,611.54 ft above mean sea level (levels by Wisconsin Valley Improvement Co.).

05390750 Big St. Germain Lake on St. Germain River, lat 45°55'06", long 89°31'55", in SE 1/4 sec.30, T.40 N., R.8 E., Vilas County, 5.0 miles south of Sayner, Wis., used as a reservoir since 1908, has a usable capacity of 202,000,000 cu ft. Drainage area, 69 sq mi. Datum of gage is 1,588.32 ft above mean sea level (levels by Public Service Commission of Wisconsin).

05390800 Pickerel Lake on St. Germain River, lat 45°52'22", long 89°31'47", in NE 1/4 sec.18, T.39 N., R.8 E., Oneida County, 5.0 miles northeast of town of Lake Tomahawk, Wis., used as a reservoir since 1935, has a usable capacity of 338,000,000 cu ft. Drainage area, 78 sq mi. Datum of gage is 1,582.00 ft above mean sea level (levels by Wisconsin Valley Improvement Co.).

05390900 Rainbow Lake on Wisconsin River, lat 45°50'02", long 89°32'42", in SW 1/4 sec.30, T.39 N., R.8 E., Oneida County, 800 ft upstream from U.S. Geological Survey river gaging station, 2.7 miles northeast of town of Lake Tomahawk, Wis., used as a reservoir since 1935, has a usable capacity of 2,181,000,000 cu ft. Drainage area, 740 sq mi. Datum of gage is 1,570.00 ft above mean sea level (levels by Wisconsin Valley Improvement Co.).

05391100 South Pelican Lake on Pelican River, lat 45°31'37", long 89°12'24", in S 1/2 sec.11, T.35 N., R.10 E., Oneida County, 2.8 miles northwest of town of Pelican Lake, Wis., used as a reservoir since 1909, has a usable capacity of 305,000,000 cu ft. Drainage area, 22 sq mi. Datum of gage is 1,589.98 ft above mean sea level (levels by Wisconsin Valley Improvement Co.).

Reservoirs in Wisconsin River Basin--Continued

05391300 North Pelican Lakes (includes Moen Lakes) on North Branch Pelican River, lat 45°38'05", long 89°14'38", in SE 1/4 sec.4, T.36 N., R.10 E., Oneida County, 0.2 mile below Twin Lakes Creek and 8.0 miles east of Rhinelander, Wis., city limits, used as a reservoir since 1908, has a usable capacity of 218,000,000 cu ft. Drainage area, 71 sq mi. Datum of gage is 1,569.10 ft above mean sea level (levels by Wisconsin Valley Improvement Co.).

05392100 Minocqua Lake on Tomahawk River, lat 45°52'35", long 89°43'38", on line between secs.10 and 15, T.39 N., R.6 E., Oneida County, 1.0 mile west of Minocqua, Wis., used as a reservoir since 1910, has a usable capacity of 628,000,000 cu ft. Drainage area, 89 sq mi. Datum of gage is 1,584.56 ft above mean sea level (levels by Wisconsin Valley Improvement Co.).

05392200 Squirrel Lake on Squirrel River, lat 45°50'37", long 89°54'13", in NE 1/4 sec.30, T.39 N., R.5 E., Oneida County, 9.4 miles west of Minocqua, Wis., used as a reservoir since 1908, has a usable capacity of 182,000,000 cu ft. Drainage area, 17 sq mi. Datum of gage is 1,560.93 ft above mean sea level (levels by Wisconsin Valley Improvement Co.).

05392300 Willow Reservoir on Tomahawk River, lat 45°42'45", long 89°50'38", in NE 1/4 sec.10, T.37 N., R.5 E., Oneida County, 8.8 miles southwest of Hazelhurst, Wis., used as a reservoir since 1927, has a usable capacity of 3,302,000,000 cu ft. Drainage area, 327 sq mi. Datum of gage is 1,505.87 ft above mean sea level (levels by Wisconsin Valley Improvement Co.).

05392500 Lake Nokomis on Tomahawk River, lat 45°32'20",long 89°44'48", in NW 1/4 sec.9, T.35 N., R.6 E., Lincoln County, at U.S. Geological Survey river gaging station, 0.5 mile east of Bradley, Wis., used as a reservoir since 1912, has a usable capacity of 1,808,000,000 cu ft. Drainage area, 548 sq mi. Datum of gage is 1,448.24 ft above mean sea level.

05393600 Spirit River Flowage on Spirit River, lat 45°26'18", long 89°44'30", in NE 1/4 sec.16, T.34 N., R.6 E., Lincoln County, 2.0 miles south of Tomahawk, Wis., used as a reservoir since 1923, has a usable capacity of 756,000,000 cu ft. Drainage area, 174 sq mi. Datum of gage is 1,420.53 ft above mean sea level.

05399600 Big Eau Pleine Reservoir on Big Eau Pleine River, lat 44°43'52", long 89°45'35", in SW 1/4 sec.14, T.26 N., R.6 E., Marathon County, 3.0 miles northeast of Dancy, Wis., used as a reservoir since 1937, has a usable capacity of 4,457,000,000 cu ft. Drainage area, 365 sq mi. Datum of gage is 1,115.00 ft above mean sea level (levels by Wisconsin Valley Improvement Co.).

05400295 Lake Dubay on Wisconsin River, lat 44°39'54", long 89°39'03", in sec.10, T.25 N., R.7 E., Wood County, 1.5 miles downstream from Little Eau Pleine River and 10.5 miles northwest of Stevens Point, has a usable capacity of 2,117,000,000 cu ft. Drainage area, 4,890 sq mi. Datum of gage is at mean sea level (power company levels).

05401400 Petenwell Flowage on Wisconsin River, lat 44°03'26", long 90°01'18", in SE 1/4 sec.4, T.18 N., R.4 E., Adams County, 5.2 miles upstream from Roche a Cri Creek, 2.4 miles west of Strongs Prairie, Wis., and 3.5 miles northeast of Necedah, Wis., used as a reservoir since 1950, has a total capacity of 19,880,000,000 cu ft. Drainage area, 5,869 sq mi. Datum of gage is 790.2 ft above mean sea level (levels by Wisconsin River Power Co.).

05403200 Castle Rock Flowage on Wisconsin River, lat 43°51'48", long 89°57'38", in sec.13, T.16 N., R.4 E., Adams County, 4.5 miles upstream from Duck Creek, and 2.0 miles south of Germantown, Wis., and 7.0 miles northeast of Mauston, Wis., used as a reservoir since 1950, has a total capacity of 7,630,000,000 cu ft. Drainage area, 6,860 sq mi. Datum of gage is 790.2 ft above mean sea level (levels by Wisconsin River Power Co.).

Month-end contents, in millions of cubic feet, water year October 1970 to September 1971

	Lac Vieux Desert	Twin Lakes	Buckatabon Lake	Sevenmile Lake	Lower Ninemile Lake	Burnt Rollways Reservoir	Long Lake	Deerskin Lake
Sept. 30......	239	132	87	60	107	638	121	14
Oct. 31.......	210	94	62	50	66	657	104	5
Nov. 30.......	212	96	75	25	60	590	84	4
Dec. 31.......	163	0	29	0	6	560	0	4
Jan. 31.......	110	0	20	0	0	272	0	4
Feb. 28.......	74	0	21	0	0	9	0	4
Mar. 31.......	44	0	24	5	13	289	6	4
Apr. 30.......	263	107	93	66	114	725	225	6
May 31.......	337	175	118	89	116	752	253	8
June 30.......	413	231	121	84	108	752	265	12
July 31.......	369	226	118	83	119	755	225	13
Aug. 31.......	354	247	120	74	120	765	210	14
Sept. 30......	280	205	110	72	121	745	174	15

Reservoirs in Wisconsin River Basin--Continued

Month-end contents, in millions of cubic feet, water year October 1970 to September 1971

	Sugar Camp Reservoir	Little St. Germain Lake	Big St. Germain Lake	Pickerel Lake	Rainbow Lake	South Pelican Lake	North Pelican Lakes	Minocqua Lake
Sept. 30......	379	64	138	269	1,008	92	130	568
Oct. 31.......	443	42	134	249	1,773	152	130	484
Nov. 30.......	423	34	162	274	2,167	203	94	342
Dec. 31.......	307	4	85	220	1,922	193	59	230
Jan. 31.......	142	4	27	183	1,609	152	40	157
Feb. 28.......	24	5	27	166	1,047	133	30	96
Mar. 31.......	63	2	27	32	174	79	43	0
Apr. 30.......	429	37	153	267	1,829	222	148	195
May 31.......	419	68	168	277	2,139	254	137	362
June 30.......	407	78	168	277	2,022	244	138	586
July 31.......	415	75	162	274	1,382	234	130	493
Aug. 31.......	407	76	156	270	767	228	134	490
Sept. 30......	447	75	162	245	807	241	142	556

	Squirrel Lake	Willow Reservoir	Lake Nokomis	Spirit Lake Flowage	Big Eau Pleine Reservoir	Lake Dubay	Petenwell Flowage	Castle Rock Flowage
Sept. 30......	158	613	1,450	429	2,622*	4,376	18,624	6,347
Oct. 31.......	135	858	1,582	743	2,823	4,400	18,909	6,726
Nov. 30.......	65	2,094	1,754	726	3,792	4,486	18,686	6,544
Dec. 31.......	23	2,199	1,323	598	3,870	3,341	18,579	6,726
Jan. 31.......	6	1,000	1,082	347	2,082	4,431	18,286	6,327
Feb. 28.......	51	164	979	152	276	4,457	17,108	4,555
Mar. 31.......	2	384	246	1	741	3,027	14,997	4,345
Apr. 30.......	138	2,532	1,660	737	4,437	4,852	19,547	7,472
May 31.......	168	3,056	1,790	732	4,399	4,885	19,781	7,607
June 30.......	163	3,282	1,778	679	4,064	4,345	18,526	6,537
July 31.......	161	2,938	1,615	561	3,446	4,297	18,793	6,740
Aug. 31.......	171	2,014	1,310	459	2,760	4,411	18,704	6,488
Sept. 30......	179	1,536	801	316	2,468	4,522	18,775	6,817

*Corrected

05413500 Grant River at Burton, Wis.

LOCATION.--Lat 42°43'13", long 90°49'09", in NW 1/4 sec.23, T.3 N., R.4 W., Grant County, on right bank at downstream side of highway bridge at Burton, 5.9 miles northwest of Potosi and 9.5 miles upstream from mouth.

DRAINAGE AREA.--267 sq mi.

PERIOD OF RECORD.--October 1934 to current year. Published as "near Burton" October 1934 to September 1947. Records published for both sites March to September 1947. October 1934, monthly discharge only, published in WSP 1308.

GAGE.--Water-stage recorder. Datum of gage is 606.89 ft above mean sea level, adjustment of 1912. Oct. 17, 1934, to Sept. 30, 1947, nonrecording gage at site 6 miles upstream at datum 33.18 ft higher. Mar. 18, 1947, to July 27, 1949, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--37 years, 157 cfs (7.99 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,140 cfs Mar. 15 (gage height, 17.07 ft); minimum daily, 64 cfs Dec. 28, backwater from ice.

Period of record: Maximum discharge, 25,000 cfs July 16, 1950 (gage height, 24.82 ft), from rating curve extended above 18,000 cfs on basis of slope-area measurement of peak flow; minimum, 21 cfs Mar. 4, 1954, result of freezeup.

REMARKS.--Records good except those for winter period, which are fair. Records of chemical analyses for the current year are published in Part 2 of this report.

COOPERATION.--Nine discharge measurements furnished by Corps of Engineers.

REVISIONS (WATER YEARS).--WSP 1308: 1935-37(M), 1941(M), 1945-46(M), 1949(M). WSP 1728: 1942(M).

Rating table (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Mar. 5-23; stage-discharge relation affected by ice Dec. 12 to Mar. 12.)

Oct. 1 to Mar. 4		Mar. 4 to June 23				June 23 to Sept. 30	
4.7	78	5.0	90	10.0	654	4.7	84
5.0	98	6.0	162	12.0	914	5.0	105
5.4	127	8.0	394	15.0	1,310	6.0	191
5.8	160					7.0	288

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	133	110	106	76	68	420	374	160	176	120	99	88
2	129	110	106	80	70	320	290	159	151	114	243	88
3	122	112	101	84	70	290	261	152	138	113	120	87
4	116	111	102	88	72	270	253	152	130	114	104	89
5	113	103	97	90	76	270	229	168	126	122	98	118
6	113	108	73	90	78	240	224	161	124	122	97	103
7	113	107	113	91	76	210	224	149	128	119	96	91
8	113	105	102	90	76	180	219	146	131	136	97	88
9	134	107	101	88	76	180	212	144	120	140	96	178
10	156	112	91	86	80	180	196	142	118	124	95	297
11	114	105	111	80	82	180	193	141	127	131	94	113
12	111	103	82	76	80	190	208	141	151	123	93	103
13	109	103	76	72	80	304	234	139	126	204	91	99
14	105	103	68	70	82	1,210	197	138	119	124	94	97
15	102	98	64	68	92	1,260	190	136	122	113	100	94
16	100	98	66	66	90	589	192	133	116	111	92	92
17	99	99	74	68	96	447	212	132	113	109	91	91
18	99	99	75	70	100	449	191	138	110	108	91	90
19	99	100	74	72	350	447	180	472	108	114	91	100
20	97	120	70	74	1,000	388	179	196	184	106	92	107
21	97	122	72	76	800	371	191	156	152	103	90	98
22	99	109	74	78	500	374	218	148	130	101	91	94
23	102	79	74	80	360	315	184	152	489	102	114	93
24	113	146	70	90	290	296	176	176	152	110	118	92
25	116	125	68	76	270	276	169	173	157	104	95	93
26	104	115	70	72	280	265	165	154	146	103	91	102
27	124	110	68	70	1,000	296	166	143	137	99	92	102
28	141	105	64	70	580	491	174	138	129	101	90	103
29	125	105	66	70	------	389	168	135	122	99	88	95
30	116	106	70	68	------	334	163	133	122	97	87	99
31	114	------	72	68	------	351	------	131	------	97	88	------
TOTAL	3,528	3,239	2,521	2,397	6,907	11,762	6,232	4,936	4,354	3,583	3,118	3,184
MEAN	114	108	81.3	77.0	247	379	208	159	145	116	101	106
MAX	156	146	113	91	1,000	1,260	374	472	489	204	243	297
MIN	97	79	64	66	68	180	163	131	108	97	87	87
CFSM	.43	.40	.30	.29	.93	1.42	.78	.60	.54	.43	.38	.40
IN.	.49	.45	.35	.33	.96	1.64	.87	.69	.61	.50	.43	.44

CAL YR 1970 TOTAL 43,267 MEAN 119 MAX 1,120 MIN 64 CFSM .44 IN 6.03
WTR YR 1971 TOTAL 55,746 MEAN 153 MAX 1,260 MIN 64 CFSM .57 IN 7.77

05414000 Platte River near Rockville, Wis.

LOCATION.--Lat 42°43'52", long 90°38'25", in SW 1/4 sec.17, T.3 N., R.2 W., Grant County, on right bank just downstream from bridge on County Trunk Highway B, 0.8 mile upstream from Blakely Branch, 2.2 miles east of Rockville, 4.5 miles northeast of Potosi, and 15.2 miles upstream from mouth.

DRAINAGE AREA.--139 sq mi.

PERIOD OF RECORD.--October 1934 to current year. Monthly discharge only for October and November 1934, published in WSP 1308.

GAGE.--Water-stage recorder. Datum of gage is 642.96 ft above mean sea level, adjustment of 1912. Prior to Oct. 1, 1941, nonrecording gage at site 1.3 miles upstream at datum 12.55 ft higher. Oct. 1, 1941, to June 29, 1949, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--37 years, 93.4 cfs (9.12 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,560 cfs Mar. 15 (gage height, 8.11 ft); minimum, 28 cfs Dec. 15 (gage height, 2.95 ft) result of freezeup.

Period of record: Maximum discharge, 43,500 cfs July 16, 1950 (gage height, 17.26 ft), from rating curve extended above 7,000 cfs on basis of slope-area measurement of peak flow; no flow Nov. 24, 1950.

REMARKS.--Records good except those for winter periods and those for July to September, which are fair. Records of chemical analyses for the current year are published in Part 2 of this report.

COOPERATION.--Nine discharge measurements furnished by Corps of Engineers.

REVISIONS (WATER YEARS).--WSP 1438: 1935-36, 1937(M), 1939(M), 1941-43, 1946(M).

Rating table (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 11 to Feb. 26.)

3.0	31	4.0	184
3.2	49	5.0	450
3.5	86	6.0	750
		7.0	1,050

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	91	70	66	50	40	215	228	107	118	71	70	49
2	88	70	65	52	37	182	206	107	120	68	160	47
3	83	70	65	52	35	160	191	106	91	67	75	47
4	78	70	65	52	36	149	173	109	86	68	62	58
5	78	71	61	50	39	151	162	118	86	71	61	191
6	76	70	53	50	38	142	155	111	83	72	60	68
7	73	70	61	49	37	126	151	106	88	72	60	57
8	72	67	61	47	37	116	149	104	86	79	60	44
9	80	71	62	48	38	111	142	104	80	75	61	360
10	79	70	59	48	42	115	132	101	79	71	60	300
11	72	66	54	47	45	109	130	101	80	72	60	110
12	72	66	52	47	44	109	149	99	80	72	58	72
13	71	65	50	47	43	191	171	96	76	72	59	70
14	70	65	48	48	44	705	140	96	76	66	66	69
15	67	64	52	46	45	885	134	94	76	66	68	67
16	66	64	52	44	45	405	142	89	75	65	58	62
17	67	65	54	43	47	294	149	86	73	64	54	60
18	66	65	52	43	56	288	134	91	72	59	56	58
19	65	66	50	45	320	268	130	177	72	61	56	65
20	65	80	48	54	600	233	128	102	86	60	56	67
21	65	76	49	54	360	224	126	91	79	60	52	62
22	66	68	50	56	230	215	126	88	75	60	53	61
23	68	50	48	56	170	193	118	88	75	66	58	59
24	73	67	45	56	150	180	116	122	75	68	54	58
25	72	65	44	54	130	175	113	104	86	66	56	57
26	70	65	45	50	280	171	111	92	79	66	42	60
27	79	65	43	47	582	199	115	86	76	65	42	62
28	86	52	43	45	275	299	118	83	72	68	42	60
29	78	64	42	45		268	113	82	71	68	41	58
30	73	65	43	45	------	235	109	80	71	67	42	58
31	72	------	45	42	------	240	------	80	------	68	41	------
TOTAL	2,281	2,012	1,627	1,512	3,845	7,353	4,261	3,100	2,442	2,093	1,843	2,516
MEAN	73.6	67.1	52.5	48.8	137	237	142	100	81.4	67.5	59.5	83.9
MAX	91	76	66	56	600	885	228	177	120	79	160	360
MIN	65	50	42	42	35	109	109	80	71	59	41	47
CFSM	.53	.48	.38	.35	.99	1.71	1.02	.72	.59	.49	.43	.60
IN.	.61	.54	.44	.40	1.03	1.97	1.14	.83	.65	.56	.49	.67

CAL YR 1970 TOTAL 28,268 MEAN 77.4 MAX 806 MIN 42 CFSM .56 IN 7.57
WTR YR 1971 TOTAL 34,885 MEAN 95.6 MAX 885 MIN 35 CFSM .69 IN 9.33

PEAK DISCHARGE (BASE, 2,100 CFS).--No peak above base.

05415000 Galena River at Buncombe, Wis.

LOCATION.--Lat 42°30'49", long 90°22'40", in SW 1/4 sec.33, T.1 N., R.1 E., LaFayette County, on left bank at Buncombe, 0.6 mile upstream from Coon Branch, 1.5 miles upstream from Scrabble Branch, 2.0 miles upstream from Wisconsin-Illinois State line, and 3.5 miles southeast of Hazel Green.

DRAINAGE AREA.--28 sq mi.

PERIOD OF RECORD.--September 1939 to current year.

GAGE.--Water-stage recorder. Datum of gage is 682.77 ft above mean sea level, adjustment of 1912 (Corps of Engineers bench mark). Prior to Dec. 1, 1939, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--32 years, 73.2 cfs (7.77 inches per year).

EXTREMES.--Current year: Maximum discharge, 3,200 cfs Feb. 27 (gage height, 10.91 ft); maximum gage height, 13.37 ft (backwater from ice) Feb. 19; minimum discharge, 11 cfs Jan. 15 (gage height, 3.00, result of freezeup).

Period of record: Maximum discharge, 29,700 cfs June 29, 1969 (gage height, 19.57 ft) from rating curve extended above 8,100 cfs on basis of slope-area measurements at gage heights 15.68 ft and 19.57 ft; minimum, 0.8 cfs Mar. 3, 1954.

Flood in February 1937 reached a stage of about 17.1 ft, from information by local resident (discharge, 18,000 cfs).

REMARKS.--Records good except those for winter periods, which are fair.

REVISIONS (WATER YEARS).--WSP 1438: 1942(P), 1943(M), 1944(P), 1945(M).

Rating tables (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 21 to Feb. 26.)

Oct. 1 to Feb. 20			Feb. 21 to Sept. 30			
3.5	29		3.1	21	5.0	265
3.6	34		3.3	30	6.0	529
3.8	47		3.5	43	7.0	903
4.0	63		4.0	92		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	61	46	41	32	32	216	99	56	70	27	24	21
2	59	44	40	32	32	177	91	56	82	26	33	21
3	55	44	39	33	33	138	89	53	49	25	31	21
4	52	45	38	33	35	124	85	54	44	26	25	22
5	50	44	33	31	36	123	82	59	41	28	24	50
6	49	44	29	31	35	112	78	65	40	29	23	35
7	46	43	39	30	35	99	77	55	45	26	23	24
8	48	42	38	30	35	93	74	53	42	32	23	22
9	53	43	39	30	35	90	73	52	38	31	23	22
10	51	46	45	30	31	89	69	50	37	29	24	23
11	47	43	42	30	37	91	69	49	38	32	23	22
12	46	42	43	30	36	94	72	49	39	29	22	22
13	46	41	39	30	36	310	78	48	37	48	22	22
14	45	39	34	30	36	803	69	47	34	32	25	21
15	43	39	35	30	36	532	67	46	33	28	27	21
16	42	39	44	29	36	166	163	46	32	27	25	21
17	42	39	44	29	36	136	152	45	31	27	23	21
18	42	40	41	28	110	141	77	47	30	26	23	20
19	42	40	37	30	810	136	72	55	31	27	23	27
20	41	50	32	32	1,100	126	71	49	38	26	23	28
21	41	49	32	33	270	139	70	43	41	26	22	24
22	41	41	32	34	160	147	73	41	31	25	23	23
23	43	28	31	34	130	114	66	43	32	25	24	22
24	44	38	30	35	110	104	63	51	32	27	22	22
25	43	40	30	36	120	102	60	49	43	26	22	22
26	41	41	31	36	600	98	59	44	35	26	22	25
27	54	42	30	35	858	107	59	42	32	26	22	26
28	57	40	30	34	274	139	64	40	30	25	22	25
29	51	41	29	33	------	110	60	40	27	24	22	24
30	46	42	29	33	------	99	57	40	27	24	21	23
31	48	------	30	32	------	99	------	41	------	24	21	------
TOTAL	1,469	1,255	1,106	985	5,174	5,054	2,338	1,508	1,161	859	732	722
MEAN	47.4	41.8	35.7	31.8	185	163	77.9	48.6	38.7	27.7	23.6	24.1
MAX	61	50	45	36	1,100	803	163	65	82	48	33	50
MIN	41	28	29	28	31	89	57	40	27	24	21	20
CFSM	.37	.33	.28	.25	1.45	1.27	.61	.38	.30	.22	.18	.19
IN.	.43	.36	.32	.29	1.50	1.47	.68	.44	.34	.25	.21	.21

CAL YR 1970 TOTAL 20,353 MEAN 55.8 MAX 1,390 MIN 25 CFSM .44 IN 5.92
WTR YR 1971 TOTAL 22,363 MEAN 61.3 MAX 1,100 MIN 20 CFSM .48 IN 6.50

PEAK DISCHARGE (BASE, 3,000 CFS).--Feb. 27 (0015) 3,200 cfs (10.92 ft).

05426000 Crawfish River at Milford, Wis.

LOCATION.--Lat 43°06'00", long 88°50'58", in SW 1/4 sec.4, T.7 N., R.14 E., Jefferson County, near left bank on upstream side of highway bridge in Milford, 1.4 miles downstream from Rock Creek and 9.8 miles upstream from mouth.

DRAINAGE AREA.--732 sq mi.

PERIOD OF RECORD.--June 1931 to current year.

GAGE.--Water-stage recorder. Datum of gage is 779.40 ft above mean sea level. Prior to July 28, 1966, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--40 years, 328 cfs (6.09 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,560 cfs Mar. 20 (gage height, 7.02 ft); minimum, 9.5 cfs Sept. 28 (gage height, 1.35 ft).

Period of record: Maximum discharge, 6,140 cfs Apr. 6, 1959 (gage height, 11.15 ft); minimum observed, 0.2 cfs Sept. 15, 1958 (gage height, 1.11 ft).

REMARKS.--Records good except those for winter periods, which are fair. Some diurnal fluctuation at low flow possible, due to small dams upstream.

Rating table (gage height, in feet, and discharge, in cubic feet per second). (Stage-discharge relation affected by ice Nov. 22, 23, Dec. 6, 14, 15, Dec. 20 to Mar. 2.)

Oct. 1-26		Oct. 27 to Sept. 30			
1.9	86	1.5	20	2.5	280
2.0	114	1.7	45	3.0	495
2.5	302	1.9	86	5.0	1,450
		2.1	140	7.0	2,550

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	296	272	156	150	130	900	1,820	803	161	269	30	56
2	278	300	220	150	130	1,000	1,850	794	165	224	65	49
3	265	304	231	160	130	1,100	1,900	738	161	189	65	47
4	212	324	245	140	150	1,200	1,880	670	155	165	61	38
5	171	312	238	130	140	1,200	1,840	680	132	159	63	52
6	138	288	210	130	150	1,200	1,770	662	132	140	65	50
7	145	300	179	130	150	1,200	1,680	621	112	107	59	58
8	159	292	175	130	140	1,200	1,540	590	140	123	49	58
9	141	276	175	130	140	1,200	1,540	558	116	129	39	45
10	201	300	159	130	140	1,200	1,410	522	93	118	41	45
11	235	284	143	120	150	1,100	1,300	517	92	115	59	50
12	243	296	156	120	150	1,200	1,340	493	101	79	32	42
13	228	316	153	130	145	1,300	1,470	454	110	96	35	38
14	239	328	150	130	140	1,400	1,490	426	107	96	77	38
15	216	288	160	130	150	1,600	1,530	369	97	91	75	38
16	175	245	153	120	150	1,700	1,570	354	84	72	75	32
17	145	238	153	120	150	1,900	1,590	284	62	77	75	39
18	145	231	156	120	160	2,200	1,520	258	69	56	65	42
19	134	220	166	120	210	2,400	1,450	225	91	84	58	54
20	131	249	170	130	290	2,500	1,380	248	117	65	59	49
21	124	213	170	130	300	2,490	1,330	265	200	44	60	30
22	107	210	170	140	310	2,430	1,250	234	258	39	54	42
23	106	200	170	140	360	2,380	1,160	176	317	61	57	52
24	110	182	170	150	400	2,260	1,100	186	329	81	54	41
25	114	192	160	150	450	2,130	1,020	217	355	63	67	36
26	110	192	170	140	500	2,070	950	221	355	86	85	45
27	102	189	160	140	560	2,060	890	209	332	63	71	41
28	156	186	140	160	760	2,000	881	202	325	58	66	24
29	185	186	140	140	------	1,980	853	189	301	59	60	54
30	210	189	140	140	------	1,900	812	187	295	65	68	44
31	245	------	140	130	------	1,850	------	177	------	52	59	------
TOTAL	5,466	7,602	5,278	4,160	6,825	52,210	42,106	12,529	5,363	3,125	1,848	1,329
MEAN	176	253	170	134	244	1,684	1,404	404	179	101	59.6	44.3
MAX	296	328	245	160	760	2,500	1,900	803	355	269	85	58
MIN	102	182	140	120	130	900	812	176	62	39	30	24
CFSM	.24	.35	.23	.18	.33	2.30	1.92	.55	.24	.14	.08	.06
IN.	.28	.39	.27	.21	.35	2.65	2.14	.64	.27	.16	.09	.07

CAL YR 1970 TOTAL 60,298 MEAN 165 MAX 557 MIN 14 CFSM .23 IN 3.06
WTR YR 1971 TOTAL 147,961 MEAN 405 MAX 2,500 MIN 24 CFSM .55 IN 7.51

PEAK DISCHARGE (BASE, 1,250 CFS).--Mar. 20 (0800) 2,560 cfs (7.02 ft).

05428000 Lake Mendota at Madison, Wis.

LOCATION.--Lat 43°05'42", long 89°22'12", in SE 1/4 sec.12, T.7 N., R.9 E., Dane County, attached to left wall of lock of dam at outlet, in Madison.

DRAINAGE AREA.--254 sq mi. Area of Lake Mendota, 15.2 sq mi.

PERIOD OF RECORD.--December 1902 to May 1903, January 1916 to current year (incomplete).

GAGE.--Nonrecording gage read almost daily during periods of open water. Datum of gage is 847.82 ft above mean sea level, or 2.22 ft above city of Madison datum.

EXTREMES.--Current year: Maximum gage height observed, 2.20 ft Nov. 9; minimum observed, 1.48 ft June 19, Aug. 5-9, 13.

Period of record: Maximum gage height observed, 4.19 ft Apr. 5, 1959; minimum observed. 0.20 ft Feb. 24 to Mar. 10, 1920.

REMARKS.--Lake level regulated by concrete dam with two 12-foot tainter gates and 20-foot lock at outlet.

COOPERATION.--Gage-height record furnished by city engineer of Madison.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.98	2.08			1.90	1.87			1.74	1.66	1.50	1.64
2	2.00	2.08							1.80	1.62	1.54	1.64
3	2.06	2.10						1.83	1.76	1.60	1.50	1.64
4	1.96	2.12						1.80	1.78	1.59	1.50	1.62
5	1.92			2.15	1.93	1.70	1.66	1.82	1.76	1.60	1.48	1.72
6	1.92							1.80	1.76	1.58	1.48	1.68
7	1.94		2.02					1.80	1.76	1.58	1.48	1.66
8	1.98			2.11	1.89	1.68		1.80	1.74	1.76	1.48	1.70
9	1.96	2.20					1.68	1.80	1.70	1.68	1.48	1.66
10	1.98							1.80	1.64	1.64	1.50	1.64
11	2.00			2.06				1.81	1.62	1.63	1.52	1.62
12	2.00				1.84	1.55	1.66	1.80	1.62	1.62	1.50	1.58
13	2.00						1.76	1.80	1.62	1.64	1.48	1.58
14	2.00		2.23				1.80	1.76	1.60	1.64	1.64	1.60
15	1.98			2.01	1.80	1.60	1.80	1.76	1.58	1.64	1.64	1.58
16	1.96	1.95					1.84	1.74	1.54	1.64	1.62	1.58
17	1.96		2.08				1.88	1.76	1.52	1.64	1.62	1.54
18	1.96				1.80	1.70	1.86	1.64	1.50	1.60	1.60	1.52
19	1.94			2.00	1.96		1.86	1.72	1.48	1.60	1.64	1.52
20	1.94						1.86	1.76	1.56	1.58	1.62	1.54
21	1.94		2.04					1.76	1.56	1.56	1.60	1.52
22	1.94			1.99	1.99	1.80	1.86	1.76	1.56	1.56	1.60	1.54
23	1.92						1.90	1.76	1.60	1.52	1.68	1.54
24	1.94		2.02				1.92	1.78	1.60	1.55	1.70	1.50
25	1.96			1.95				1.76	1.63	1.58	1.70	1.50
26	1.96				1.95	1.60	1.86	1.74	1.63	1.62	1.68	1.50
27	2.00	2.05					1.82	1.74	1.64	1.58	1.66	1.54
28	2.08						1.86	1.74	1.66	1.56	1.66	1.54
29	2.08			1.92	------	1.58	1.96	1.76	1.66	1.54	1.64	1.54
30	2.10	2.03			------		1.86	1.76	1.64	1.54	1.66	1.54
31		------			------		------		------			------

05429000 Lake Monona at Madison, Wis.

LOCATION.--Lat 43°03'48", long 89°23'49", in SW 1/4 sec.23, T.7 N., R.9 E., Dane County, at end of concrete storm sewer in Brittingham Park, in Madison.

DRAINAGE AREA.--273 sq mi. Area of Lake Monona, 5.3 sq mi.

PERIOD OF RECORD.--September 1915 to current year (fragmentary) in reports of the Geological Survey. For 1856 to March 1917 in reports of Wisconsin Railroad Commission, Volume 19.

GAGE.--Reference point by which the stage is read almost daily during periods of open water. Datum of gage is 843.61 ft above mean sea level, or 1.99 ft below city of Madison datum.

EXTREMES.--Current year: Maximum gage height observed, 1.71 ft Mar. 29; minimum observed, 0.34 ft Dec. 17. Period of record: Maximum gage height observed, 3.66 ft July 28, 1929; minimum observed, -0.39 ft Jan. 20, 1965.

REMARKS.--Lake level regulated by concrete dam with four 12-foot stop-log sections and 12-foot lock at outlet of Lake Waubesa.

COOPERATION.--Gage-height record furnished by city engineer of Madison.

REVISION.--WSP 1338: Lake area.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						1.61						
2	1.37	.87					1.53		1.40	1.38	1.28	
3								1.16				1.25
4			.42	.60					1.42			
5					.75	1.66	1.36	1.19				
6		.76								1.22		
7							1.28	1.21	1.44			1.25
8												
9	1.44	.72				1.67	1.22		1.45		1.22	
10						1.66		1.27				1.23
11				.60								
12	1.32				.77	1.55	1.17	1.23		1.38		
13		.64					1.12				1.15	1.23
14			.38				1.36	1.26	1.52			
15				.60		1.61						
16	1.18	.56					1.34			1.23	1.30	
17			.34			1.56		1.31				1.14
18				.65					1.55			
19	1.11				1.30	1.65		1.28		1.26		
20											1.27	1.14
21	1.08		.40				1.25	1.30	1.65			
22				.62		1.68						1.13
23							1.20		1.67	1.22	1.34	
24						1.69		1.39				1.10
25				.63					1.60			
26	.98				1.42	1.67	1.19	1.29		1.23		
27											1.28	1.20
28			.45				1.22		1.61			
29				.67	------	1.71				1.12		1.19
30	.94	.55			------		1.22		1.40		1.28	
31		------			------		------		------			------

05429040 Manitou Way Storm Sewer at Madison, Wis.

LOCATION.--Lat 43°02'41", long 89°26'24", in NW 1/4 NW 1/4 sec.33, T.7 N., R.9 E., Dane County, at inlet to storm sewer on Manitou Way near intersection with Mandan Crescent, in Madison.

DRAINAGE AREA.--0.20 sq mi.

PERIOD OF RECORD.--October 1970 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 840 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 66 cfs Apr. 12 (gage height, 12.97 ft); no flow many days during year.

Period of record: Maximum discharge, 66 cfs Apr. 12, 1971 (gage height, 12.97 ft); no flow many days during 1971.

REMARKS.--Records fair. Discharge at more frequent intervals available in district.

Rating table (gage height, in feet, and discharge, in cubic feet per second).

10.0	0	10.3	1.2
10.1	0.20	10.4	1.9
10.2	.61	10.6	3.7

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0		0	0	.41	0	2.0	0	0	0
2	0	.02	.01		0	0	0	0	0	0	0	0
3	0	.03	.03		0	0	0	.10	0	0	0	0
4	0	.05	.01		0	0	0	0	0	0	0	.33
5	0	0	0		0	0	0	0	0	0	0	.13
6	0	0	0		0	0	0	0	0	0	.01	0
7	.32	0	0		0	0	0	0	0	0	0	0
8	.03	0	0		0	0	0	0	0	1.1	0	0
9	.22	.12	0		0	0	0	0	0	.01	0	0
10	0	.12	0		0	0	0	0	0	0	.04	0
11	0	0	0		0	0	.13	0	0	0	0	0
12	0	0	0		0	.03	2.9	0	0	.07	0	0
13	0	0	0		0	.05	0	0	0	0	.03	0
14	0	0	0		0	.44	0	0	0	0	.24	0
15	0	0	0		0	.12	0	0	0	.02	0	0
16	0	0	0		0	.06	.22	0	0	.02	0	0
17	0	0	0		.17	.07	.03	0	0	0	0	0
18	0	0	0		.74	.03	0	.07	0	0	0	0
19	0	.03	0		.99	.01	.20	0	.06	.01	0	.53
20	0	.18	0		.20	.10	.01	.23	.21	0	0	0
21	0	0	0		0	.19	.15	0	.57	0	0	0
22	0	0	0		0	.10	0	0	.05	0	0	0
23	.10	0	0		0	.06	0	.12	.23	.07	0	.02
24	.01	0	0		0	.15	0	.38	.01	0	.08	0
25	0	0	0		0	.04	0	0	0	.07	0	.22
26	0	0	0		0	.06	0	0	0	0	0	0
27	.38	0	0		0	.13	.29	0	0	0	0	.50
28	.38	0	0		0	.13	.29	0	0	0	0	0
29	0	0	0		------	.08	0	0	0	.01	0	.01
30	.01	0	0		------	.10	0	0	0	0	0	0
31	.01	------	0		------	.19	------	0	------	0	0	------
TOTAL	1.46	.55	.05	0	2.10	2.14	4.63	.90	3.13	1.38	.40	1.74
MEAN	.047	.018	.002	0	.075	.069	.15	.029	.10	.045	.013	.058
MAX	.38	.18	.03	0	.99	.44	2.9	.38	2.0	1.1	.24	.53
MIN	0	0	0	0	0	0	0	0	0	0	0	0
CFSM	0.24	0.09	0.01	0	0.38	0.34	0.75	0.14	0.50	0.22	0.06	0.29
IN.	0.27	0.10	0.01	0	0.39	0.40	0.86	0.17	0.58	0.26	0.07	0.32

WTR YR 1971 TOTAL 18.49 MEAN .051 MAX 2.9 MIN 0 CFSM 0.26 IN 3.44

05429500 Yahara River near McFarland, Wis.

LOCATION.--Lat 43°00'32", long 89°18'18", in SW 1/4 sec.3, T.6 N., R.10 E., Dane County, on left bank just upstream from bridge on U.S. Highway 51, at dam at outlet of Lake Waubesa and 1.0 mile southwest of McFarland.

DRAINAGE AREA.--323 sq mi (revised).

PERIOD OF RECORD.--September 1930 to current year.

GAGE.--Water-stage recorder. Datum of gage is 840.00 ft above mean sea level (levels by Wisconsin Department of Natural Resources). Prior to Dec. 23, 1934, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--41 years, 146 cfs (5.65 inches per year).

EXTREMES.--Current year: Maximum discharge, 386 cfs Mar. 30 (gage height, 4.49 ft); maximum gage height, 4.66 ft June 20, 21 (backwater from aquatic vegetation); minimum daily discharge, 6.5 cfs Aug. 10.

Period of record: Maximum discharge, 867 cfs Apr. 10, 1959 (gage height, 5.82 ft); maximum gage height, 6.33 ft July 23, 24, 1950 (backwater from aquatic vegetation); minimum discharge, 1.0 cfs Oct. 18, 1964.

REMARKS.--Records fair. Flow regulated by dams at outlets of Lake Mendota and Lake Waubesa. The Madison Metropolitan Sewerage District diverted an average of 31.11 million gallons per day of effluent into the Badfish Creek basin during 1971. Prior to 1958 the effluent was discharged into the Yahara River above McFarland.

REVISIONS.--WSP 805: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	158	105	140	110	92	320	376	152	56	58	16	26
2	147	101	138	110	92	330	370	147	59	44	15	30
3	131	125	140	110	94	330	358	140	64	40	13	30
4	114	147	130	110	94	330	340	138	65	37	12	28
5	112	142	120	110	96	330	332	99	67	37	10	30
6	101	133	101	110	96	340	325	78	67	39	8.5	30
7	118	125	114	110	94	340	322	73	58	39	9.0	33
8	116	120	110	100	92	340	320	72	53	33	8.5	31
9	116	116	108	100	96	340	318	75	54	28	7.1	31
10	110	118	114	100	98	350	310	75	45	28	6.5	34
11	110	112	133	100	98	350	300	76	46	28	6.8	43
12	103	108	127	96	98	350	318	65	47	27	9.0	43
13	99	108	120	98	98	355	340	65	50	22	10	37
14	101	105	110	100	98	363	340	64	48	21	12	36
15	95	99	100	100	98	386	335	65	48	21	14	31
16	84	91	94	98	100	383	338	70	53	21	17	28
17	78	88	94	94	100	370	338	68	57	20	19	25
18	76	84	92	90	110	370	335	65	57	16	21	25
19	73	80	92	92	130	383	325	64	65	16	21	26
20	88	88	94	94	160	383	280	65	110	17	22	25
21	127	76	96	94	210	383	232	70	131	18	22	27
22	122	76	98	96	250	383	200	70	125	16	23	26
23	108	44	100	98	270	383	188	68	129	16	20	24
24	118	49	100	98	290	381	165	73	129	17	23	23
25	114	84	100	96	300	376	163	82	131	19	25	23
26	108	82	100	94	310	373	158	84	136	17	18	22
27	110	80	98	92	310	373	156	91	133	18	18	24
28	125	84	96	92	320	376	161	89	129	18	22	27
29	125	89	100	92	------	383	161	88	110	20	23	28
30	116	125	100	92	------	386	154	80	84	19	30	30
31	112	------	110	92	------	383	------	61	------	18	25	------
TOTAL	3,415	2,984	3,369	3,068	4,294	11,223	8,358	2,572	2,406	788	506.4	876
MEAN	110	99.5	109	99.0	153	362	279	83.0	80.2	25.4	16.3	29.2
MAX	158	147	140	110	320	386	376	152	136	58	30	43
MIN	73	44	92	90	92	320	154	61	45	16	6.5	22
CFSM	.34	.31	.34	.31	.47	1.12	.86	.26	.25	.08	.05	.09
IN.	.39	.34	.39	.35	.49	1.29	.96	.30	.28	.09	.06	.10

CAL YR 1970 TOTAL 33,637.0 MEAN 92.2 MAX 268 MIN 12 CFSM .29 IN 3.87
WTR YR 1971 TOTAL 43,859.4 MEAN 120 MAX 386 MIN 6.5 CFSM .37 IN 5.05

05430500 Rock River at Afton, Wis.

LOCATION.--Lat 42°36'33", long 89°04'14", in NE 1/4 sec.28, T.2 N., R.12 E., Rock County, on right bank in Afton, 0.3 mile downstream from highway bridge and 1.1 miles upstream from Bass Creek.

DRAINAGE AREA.--3,331 sq mi (revised).

PERIOD OF RECORD.--January 1914 to current year. Monthly discharge only for January 1914, published in WSP 1308.

GAGE.--Water-stage recorder. Datum of gage is 742.36 ft above mean sea level. Prior to Aug. 21, 1932, a nonrecording gage, and Aug. 21, 1932, to Sept. 30, 1933, water-stage recorder, at same site at datum 1 ft higher.

AVERAGE DISCHARGE.--57 years, 1,688 cfs (6.88 inches per year).

EXTREMES.--Current year: Maximum discharge, 5,910 cfs Mar. 29 (gage height, 8.33 ft); minimum daily, 250 cfs Sept. 15, 16.

Period of record: Maximum discharge, 13,000 cfs Mar. 23, 24, 1929 (gage height, 11.81 ft, present datum); maximum gage height observed, 13.05 ft, Feb. 5, 1916, present datum (backwater from ice); minimum discharge, 22 cfs Sept. 9, 1964; minimum daily, 42 cfs Aug. 25, 26, 1934; minimum gage height, 0.09 ft Aug. 26, 1934.

REMARKS.--Records good except those for winter periods and those for July 21, 22, 28-31, Aug. 7-9, Sept. 15, 16, 18, which are fair. Diurnal fluctuation caused by powerplants above station. Records of water temperature for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 805: Drainage area. WSP 1238: 1916(M), 1919(M), 1933, 1937-38, 1943.

Rating table (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 16 to Mar. 11.)

2.1	212	5.0	2,220
2.5	420	6.0	3,160
3.0	740	7.0	4,210
4.0	1,440	8.5	6,150

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,340	1,420	1,500	1,000	860	2,900	5,790	3,890	1,660	1,150	403	455
2	1,570	1,460	1,600	1,000	860	3,000	5,580	3,870	1,570	1,150	403	461
3	1,500	1,520	1,600	1,000	860	3,200	5,700	3,780	1,200	1,130	450	420
4	1,380	1,630	1,700	980	860	3,400	5,740	3,580	1,150	915	450	455
5	1,310	1,570	1,600	960	880	3,500	5,680	3,470	1,280	915	479	450
6	880	1,570	1,500	940	900	3,600	5,560	3,560	1,190	915	461	414
7	824	1,620	1,400	920	900	3,700	5,420	3,400	943	838	410	455
8	915	1,600	1,300	900	880	3,700	5,250	3,180	1,040	971	400	504
9	1,080	1,700	1,300	900	880	3,800	5,120	3,020	1,140	1,040	390	438
10	1,150	1,710	1,200	900	880	3,800	4,960	2,850	1,040	964	403	432
11	1,240	1,960	1,200	880	880	3,800	4,690	2,660	1,020	978	461	386
12	1,200	1,990	1,200	880	880	3,890	4,760	2,580	438	887	504	381
13	1,100	1,990	1,300	900	880	3,970	4,830	2,310	473	605	420	370
14	712	2,070	1,300	900	880	3,910	4,650	2,190	625	605	631	547
15	817	1,950	1,300	880	880	4,090	4,530	2,070	768	658	554	250
16	658	1,760	1,300	880	950	4,270	4,640	1,980	651	645	529	250
17	625	1,720	1,300	860	1,000	4,540	4,700	1,870	547	664	455	311
18	645	1,780	1,300	840	1,300	4,970	4,820	1,720	547	638	444	270
19	612	1,710	1,200	840	1,800	5,360	4,790	1,600	586	560	414	306
20	692	1,720	1,200	860	2,300	5,280	4,880	1,030	859	671	403	343
21	726	1,680	1,200	880	2,000	5,490	5,030	873	1,060	500	364	286
22	692	1,560	1,200	860	1,900	5,570	4,900	1,160	936	450	381	316
23	706	1,980	1,100	880	1,900	5,690	4,650	1,130	936	491	498	338
24	768	1,340	1,100	880	2,000	5,780	4,610	1,250	1,010	522	485	338
25	726	1,580	1,100	880	2,100	5,830	4,410	1,170	1,040	579	432	343
26	706	1,500	1,110	880	2,400	5,830	4,340	1,500	1,170	761	381	343
27	831	1,500	1,100	880	2,700	5,830	4,290	1,550	1,130	852	403	375
28	1,050	1,500	1,100	860	2,600	5,840	4,180	1,530	1,080	440	414	398
29	1,370	1,500	1,100	860	------	5,870	3,980	1,480	1,080	350	398	364
30	1,430	1,500	1,100	860	------	5,880	3,950	1,440	1,110	440	370	403
31	1,410	------	1,000	860	------	5,860	------	1,480	------	400	403	------
TOTAL	30,665	50,090	39,510	27,800	38,110	142,150	146,430	69,173	29,279	22,684	13,593	11,402
MEAN	989	1,670	1,275	897	1,361	4,585	4,881	2,231	976	732	438	380
MAX	1,570	2,070	1,700	1,000	2,700	5,880	5,790	3,890	1,660	1,150	631	547
MIN	612	1,340	1,000	840	860	2,900	3,950	873	438	350	364	250
CFSM	.30	.50	.38	.27	.41	1.38	1.47	.67	.29	.22	.13	.11
IN.	.34	.56	.44	.31	.43	1.59	1.64	.77	.33	.25	.15	.13

CAL YR 1970 TOTAL 388,665 MEAN 1,065 MAX 2,970 MIN 305 CFSM .32 IN 4.34
WTR YR 1971 TOTAL 620,886 MEAN 1,701 MAX 5,880 MIN 250 CFSM .51 IN 6.93

05431500 Turtle Creek near Clinton, Wis.

LOCATION.--Lat 42°35'47", long 88°51'50", in SE 1/4 sec.29, T.2 N., R.14 E., Rock County, on left bank 15 ft downstream from highway bridge, 2.7 miles north of Clinton, 11 miles northeast of Beloit, and 16 miles upstream from mouth.

DRAINAGE AREA.--202 sq mi (revised).

PERIOD OF RECORD.--September 1939 to current year.

GAGE.--Water-stage recorder. Datum of gage is 817.00 ft above mean sea level (levels by Corps of Engineers).

AVERAGE DISCHARGE.--32 years, 103 cfs (6.92 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,500 cfs Feb. 26 (gage height, 8.54 ft, backwater from ice); maximum gage height, 10.27 ft Feb. 20 (backwater from ice); minimum discharge, 44 cfs Sept. 14-18 (gage height, 2.49 ft).

Period of record: Maximum discharge, 6,560 cfs Feb. 24, 1949 (gage height, 10.22 ft); minimum, 8 cfs Dec. 29, 1956 (gage height, 2.04 ft), result of freezeup.

Maximum stage known, 12.09 ft in February 1938, from floodmarks (discharge, 10,700 cfs, from rating curve extended above 5,500 cfs).

REMARKS.--Records good except those for winter periods, which are fair. Some seasonal regulation caused by dams used to maintain levels of Turtle and Delavan Lakes.

REVISIONS (WATER YEARS).--WSP 955: 1940. WSP 1308: 1950(M).

Rating table (gage height, in feet, and discharge, in cubic feet per second). (Period affected by ice, Dec. 14 to Feb. 26.)

2.4	38	4.0	415
2.6	66	5.0	813
3.0	142	6.0	1,360
3.5	263		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	228	219	164	90	78	380	227	106	89	63	58	53
2	199	199	149	92	78	350	202	104	164	61	63	52
3	142	192	146	90	78	347	178	100	119	59	66	52
4	110	204	142	90	80	338	164	100	102	58	62	58
5	100	187	155	86	84	310	154	102	93	59	64	61
6	96	153	160	82	80	283	147	110	86	58	61	57
7	93	135	150	78	76	266	145	102	86	55	61	54
8	95	129	140	76	74	250	138	98	80	132	58	53
9	102	138	108	78	76	247	135	93	75	112	56	51
10	95	286	96	78	78	231	133	91	72	75	102	50
11	86	226	226	80	80	216	131	91	74	67	217	49
12	84	187	98	80	78	197	127	93	75	62	142	47
13	84	178	93	80	78	171	226	88	72	61	98	47
14	80	164	100	78	78	206	185	83	74	58	86	46
15	76	151	100	76	80	344	180	82	72	57	82	46
16	74	138	120	72	84	241	171	76	69	55	69	45
17	72	133	120	70	90	199	169	76	67	56	62	46
18	72	133	120	68	120	192	135	81	65	55	61	46
19	71	135	110	70	550	155	116	83	66	55	60	62
20	72	164	110	72	1,400	173	116	78	77	54	58	65
21	74	162	110	78	1,200	304	114	76	74	53	57	55
22	72	166	120	82	1,000	209	133	76	70	51	56	51
23	72	180	110	82	820	310	120	75	74	59	66	49
24	79	180	110	82	700	286	110	79	73	67	65	49
25	76	166	100	80	640	255	106	95	75	63	64	49
26	84	171	94	80	1,900	224	102	88	75	73	59	51
27	108	169	90	78	1,330	186	110	85	71	66	57	55
28	304	171	84	78	464	317	222	81	66	61	56	52
29	328	160	84	78	------	375	116	80	61	59	53	51
30	250	160	86	78	------	251	110	77	61	58	53	49
31	234	------	88	78	------	231	------	76	------	61	52	------
TOTAL	3,712	5,136	3,683	2,460	11,474	8,044	4,422	2,725	2,377	1,983	2,224	1,551
MEAN	120	171	119	79.4	410	259	147	87.9	79.2	64.0	71.7	51.7
MAX	328	286	226	92	1,900	380	227	110	164	132	217	65
MIN	71	129	84	68	74	155	102	75	61	51	52	45
CFSM	.65	.92	.64	.43	2.20	1.39	.79	.47	.43	.34	.39	.28
IN.	.74	1.03	.74	.49	2.29	1.61	.88	.55	.48	.40	.44	.31

CAL YR 1970 TOTAL 42,037 MEAN 115 MAX 848 MIN 34 CFSM .62 IN 8.41
WTR YR 1971 TOTAL 49,791 MEAN 136 MAX 1,900 MIN 45 CFSM .73 IN 9.96

PEAK DISCHARGE (BASE, 1,200 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
2-20	0100	10.27	a1,850	2-26	1400	8.54	a2,500

a About.

05432500 Pecatonica River at Darlington, Wis.

LOCATION.--Lat 42°40'40", long 90°07'07", in NE 1/4 sec.3, T.2 N., R.3 E., La Fayette County, on right bank in Darlington, 0.3 mile downstream from Vinegar Branch, and 3.6 miles upstream from Otter Creek.

DRAINAGE AREA.--274 sq mi.

PERIOD OF RECORD.--September 1939 to current year.

GAGE.--Water-stage recorder. Datum of gage is 802.42 ft above mean sea level.

AVERAGE DISCHARGE.--31 years, 177 cfs (8.77 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,180 cfs Mar. 15 (gage height, 12.36 ft); minimum, 40 cfs Dec. 6 (gage height, 1.41 ft), result of freezeup.

Period of record: Maximum discharge, 22,000 cfs July 16, 1950 (gage height, 20.71 ft), from rating curve extended above 11,000 cfs on basis of slope-area determination of peak flow; minimum, 17 cfs Nov. 29, 1966 (gage height, 2.09 ft), result of freezeup; minimum gage height, 1.07 ft Dec. 6, 1968, result of freezeup.

Flood of Feb. 21, 1937, reached a stage of 17.6 ft from floodmarks.

REMARKS.--Records good except those for winter periods, which are fair. Records of chemical analyses for the current year are published in Part 2 of this report.

Rating table (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Mar. 18 to May 7; stage-discharge relation affected by ice Dec. 12-14, Dec. 21 to Mar. 12.)

1.6	51	6.0	580
2.0	82	8.0	880
3.0	187	10.0	1,320
4.0	317	12.0	2,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	121	101	94	70	68	500	425	192	203	101	80	70
2	115	96	94	72	68	370	379	186	213	94	102	70
3	109	96	91	72	68	300	339	179	154	91	107	69
4	101	97	92	72	70	270	313	179	138	91	84	69
5	99	96	86	70	72	260	288	209	131	96	79	122
6	98	94	52	66	72	240	274	200	128	98	78	139
7	97	91	83	64	70	210	268	176	129	94	77	83
8	97	89	86	64	68	200	264	169	129	109	77	76
9	97	91	88	64	66	190	255	165	121	141	77	74
10	100	98	75	64	68	190	234	160	116	99	76	75
11	94	94	72	66	70	190	222	159	127	98	78	76
12	91	92	90	66	70	200	242	158	124	95	77	72
13	90	88	92	64	70	338	324	153	117	97	73	71
14	89	86	92	66	70	992	269	152	112	93	99	71
15	86	84	93	66	70	1.880	234	148	109	88	107	69
16	83	82	89	64	72	1.410	288	144	107	89	85	67
17	82	84	92	62	72	604	352	141	104	86	78	67
18	83	85	91	62	80	518	286	146	101	84	76	67
19	82	85	90	66	400	480	257	187	101	86	75	75
20	82	107	86	72	1.000	414	256	220	141	85	75	85
21	83	118	82	72	1.000	422	249	151	149	78	73	78
22	83	100	78	72	760	418	294	141	112	80	74	73
23	86	58	70	74	420	361	252	141	109	82	98	77
24	93	86	66	74	350	322	230	170	107	88	90	79
25	93	89	66	74	310	309	217	190	120	92	82	78
26	87	89	68	72	380	301	208	158	127	113	78	84
27	100	93	68	70	1.000	340	206	145	111	93	74	87
28	144	92	68	68	730	521	226	143	105	84	74	79
29	136	93	68	70		502	220	140	98	83	71	75
30	110	93	68	70	------	420	200	132	100	84	70	75
31	108	------	68	68	------	409	------	130	------	81	70	------
TOTAL	3,019	2,747	2,498	2,116	7,614	14,081	8,071	5,064	3,743	2,873	2,514	2,352
MEAN	97.4	91.6	80.6	68.3	272	454	269	163	125	92.7	81.1	78.4
MAX	144	118	94	74	1,000	1,880	425	220	213	113	107	139
MIN	82	58	52	62	66	190	200	130	98	78	70	67
CFSM	.36	.33	.29	.25	.99	1.66	.98	.59	.46	.34	.30	.29
IN.	.41	.37	.34	.29	1.03	1.91	1.10	.69	.51	.39	.34	.32

CAL YR 1970 TOTAL 40,806 MEAN 112 MAX 1,060 MIN 52 CFSM .41 IN 5.54
WTR YR 1971 TOTAL 56,692 MEAN 155 MAX 1,880 MIN 52 CFSM .57 IN 7.70

PEAK DISCHARGE (BASE, 2,000 CFS).--Mar. 15 (2100) 2,180 cfs (12.36 ft).

05433000 East Branch Pecatonica River near Blanchardville, Wis.

LOCATION.--Lat 42°47'10", long 89°51'40", in SE 1/4 sec.26, T.4 N., R.5 E., La Fayette County, on left bank at downstream side of bridge on State Highway 78, 1.8 miles south of Blanchardville and 4.5 miles upstream from Sawmill Creek.

DRAINAGE AREA.--221 sq mi.

PERIOD OF RECORD.--September 1939 to current year.

GAGE.--Water-stage recorder. Datum of gage is 796.8 ft above mean sea level, unadjusted. Prior to Dec. 20, 1939, nonrecording gage at bridge 50 ft upstream at same datum. Auxiliary nonrecording gage 2.7 miles upstream at same datum read every six hours or more often when stages exceed 10 ft.

AVERAGE DISCHARGE.--32 years, 135 cfs (8.30 inches per year).

EXTREMES.--Current year: Maximum discharge, 1,020 cfs Mar. 15 (gage height, 10.14 ft); minimum, 47 cfs Dec. 6, result of freezeup.

Period of record: Maximum discharge, 11,700 cfs Feb. 28, 1948 (gage height, 15.74 ft); minimum, 18 cfs Nov. 29, 1966.

REMARKS.--Records good except those for winter periods, which are fair. Records of chemical analyses for the current year are published in Part 2 of this report.

Rating table (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 7-9, 11-13, 16-18, Dec. 21 to Mar. 12.)

2.9	64	7.0	420
3.0	71	8.0	520
4.0	150	10.0	760
5.0	230	11.0	990

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77	92	81	72	72	250	278	158	130	92	80	74
2	77	88	80	74	72	240	277	153	167	89	81	74
3	74	87	82	74	72	230	248	149	132	88	83	74
4	72	88	82	72	72	220	227	150	118	88	80	73
5	71	88	78	68	74	230	212	166	113	93	79	84
6	72	80	66	66	72	210	204	155	111	94	77	88
7	74	78	72	66	70	190	201	144	110	89	77	75
8	74	76	74	65	68	170	199	141	110	104	78	74
9	73	77	74	66	69	160	194	141	105	109	77	74
10	76	83	74	66	68	150	183	136	103	90	77	73
11	72	78	90	68	72	140	177	133	104	89	80	73
12	72	76	120	68	70	130	192	132	106	87	79	73
13	72	78	100	68	70	165	252	130	102	92	77	73
14	71	78	80	68	70	390	201	129	100	86	98	73
15	70	76	80	66	70	885	196	125	98	85	104	73
16	68	76	82	66	72	570	193	123	97	85	80	72
17	69	76	82	64	78	356	223	120	95	85	79	72
18	70	77	80	64	90	315	193	123	94	83	80	72
19	70	76	79	64	170	298	176	129	94	85	79	77
20	70	93	78	68	340	268	179	127	200	83	78	83
21	70	97	82	72	350	258	187	118	168	80	78	74
22	69	87	80	74	270	261	223	116	110	79	78	72
23	71	73	76	76	230	236	186	116	107	80	77	72
24	74	103	70	76	220	215	176	144	104	84	80	72
25	74	95	70	76	210	208	169	141	110	85	87	72
26	71	95	70	74	240	203	164	124	107	97	79	75
27	96	91	70	74	300	224	167	120	102	84	77	78
28	158	79	68	72	280	316	185	115	98	81	77	77
29	136	79	66	72	------	316	174	112	94	81	76	73
30	103	79	66	72	------	220	163	111	92	80	75	73
31	102	------	70	72	------	274	------	110	------	80	74	------
TOTAL	2,468	2,499	2,422	2,164	3,910	8,316	5,989	4,091	3,381	2,707	2,481	2,242
MEAN	79.6	83.3	78.1	69.8	140	268	200	132	113	87.3	80.0	74.7
MAX	158	103	120	76	350	885	278	166	200	109	104	88
MIN	68	73	66	64	68	130	163	110	92	79	74	72
CFSM	.36	.38	.35	.32	.63	1.21	.91	.60	.51	.40	.36	.34
IN.	.42	.42	.41	.36	.66	1.40	1.01	.69	.57	.46	.42	.38

CAL YR 1970 TOTAL 31,999 MEAN 87.7 MAX 370 MIN 54 CFSM .40 IN 5.39
WTR YR 1971 TOTAL 42,670 MEAN 117 MAX 885 MIN 64 CFSM .53 IN 7.18

PEAK DISCHARGE (BASE, 1,330 CFS).--No peak above base.

05434500 Pecatonica River at Martintown, Wis.

LOCATION.--Lat 42°30'34", long 89°47'58", in SE 1/4 sec.32, T.1 N., R.6 E., Green County, on right bank about 400 ft downstream from highway bridge in Martintown, 0.3 mile upstream from Wisconsin-Illinois State line and 8.8 miles downstream from Skinner Creek.

DRAINAGE AREA.--1,034 sq mi (revised).

RECORDS AVAILABLE.--October 1939 to current year.

GAGE.--Water-stage recorder. Datum of gage is 757.9 ft above mean sea level. Prior to Jan. 6, 1940, nonrecording gage at same site and datum. Auxiliary nonrecording gage 1 1/4 miles downstream read several times daily during high water.

AVERAGE DISCHARGE.--32 years, 674 cfs (8.85 inches per year).

EXTREMES.--Current year: Maximum discharge, 4,600 cfs Feb. 27 (gage height, 15.12 ft, backwater from ice); maximum gage height, 15.97 ft Feb. 22 (backwater from ice); minimum, 208 cfs Dec. 11 (gage height, 2.69 ft).
Period of record: Maximum discharge, 15,100 cfs July 1, 1969 (gage height, 21.46 ft); no flow for part of Dec. 14, 1939.

REMARKS.--Records good except those for winter periods, which are fair. Records of chemical analyses for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1308: 1949-50(M).

Rating table (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 19 to Mar. 12.)

3.0	256	7.0	1,160
3.5	343	9.0	1,710
4.0	440	11.0	2,280
5.0	660	13.0	3,160

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	525	547	453	320	270	3,200	1,370	766	560	406	349	299
2	489	515	446	320	270	3,200	1,340	737	1,150	395	353	298
3	468	495	460	320	280	2,500	1,290	720	1,170	400	380	298
4	454	490	455	320	290	1,900	1,180	706	770	384	377	297
5	430	477	429	300	300	1,500	1,100	710	631	385	361	321
6	422	477	391	290	300	1,200	1,030	756	581	394	339	332
7	469	464	383	280	290	1,100	985	751	558	399	331	381
8	521	450	419	280	280	1,000	960	703	559	391	334	350
9	475	446	409	280	280	940	920	672	538	408	316	304
10	462	450	393	270	280	880	876	658	516	445	329	298
11	450	442	313	270	290	860	840	638	513	409	329	297
12	438	452	337	270	290	860	811	622	539	385	337	297
13	432	440	421	270	290	911	852	613	528	392	338	290
14	414	427	444	270	290	1,440	922	602	500	397	326	299
15	404	420	565	270	300	2,000	905	588	480	387	362	286
16	394	409	624	270	310	2,200	854	572	465	366	403	289
17	385	407	539	270	320	2,420	998	560	456	378	383	283
18	383	411	442	270	540	2,720	1,030	558	446	358	319	280
19	383	456	410	270	2,000	2,670	948	558	431	361	331	286
20	379	500	360	290	3,700	2,200	888	581	445	360	316	310
21	379	552	350	300	3,800	1,740	878	618	573	359	317	331
22	379	546	340	300	3,600	1,520	950	572	622	350	320	323
23	397	440	330	300	3,400	1,430	952	545	508	348	312	307
24	376	452	320	300	3,200	1,300	905	572	468	357	316	299
25	404	599	310	310	3,000	1,180	838	618	458	371	347	305
26	408	573	300	300	3,600	1,130	799	631	476	435	335	309
27	446	539	300	290	4,200	1,250	782	590	479	458	329	327
28	606	522	300	280	3,600	1,510	792	554	458	397	318	343
29	751	476	300	270	------	1,530	816	535	424	363	311	329
30	703	442	300	270	------	1,530	804	524	424	358	304	316
31	604	------	310	270	------	1,440	------	512	------	353	305	------
TOTAL	14,227	14,345	12,153	8,890	39,570	51,261	28,615	19,342	16,724	11,949	10,427	9,283
MEAN	459	478	392	287	1,413	1,654	954	624	557	385	336	309
MAX	751	599	624	320	4,200	3,200	1,370	766	1,170	458	403	381
MIN	379	407	300	270	270	860	782	512	424	348	304	280
CFSM	.44	.46	.38	.28	1.36	1.59	.92	.60	.54	.37	.32	.30
IN.	.51	.51	.43	.32	1.42	1.83	1.02	.69	.60	.43	.37	.33

CAL YR 1970 TOTAL 168,814 MEAN 463 MAX 2,020 MIN 246 CFSM .45 IN 6.04
WTR YR 1971 TOTAL 236,786 MEAN 649 MAX 4,200 MIN 270 CFSM .62 IN 8.47

PEAK DISCHARGE (BASE, 4,000 CFS).--Feb. 27 (0100) 4600 cfs (15.12 ft, backwater from ice).

05436500 Sugar River near Brodhead, Wis.

LOCATION.--Lat 42°36'42", long 89°23'53", in SW 1/4 sec.26, T.2 N., R.9 E., Green County, on left bank at downstream side of highway bridge, 1.2 miles southwest of Brodhead, and 1.9 miles upstream from Sylvester Creek.

DRAINAGE AREA.--530 sq mi (revised).

PERIOD OF RECORD.--January 1914 to current year. Monthly discharge only for January and February 1914, published in WSP 1308.

GAGE.--Water-stage recorder. Datum of gage is 768.14 ft above mean sea level. Prior to Oct. 17, 1938, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--57 years, 333 cfs (8.53 inches per year).

EXTREMES.--Current year: Maximum discharge, 2,100 cfs Feb. 22 (gage height, 6.66 ft, from floodmark, backwater from ice); minimum daily, 142 cfs Jan. 18 (gage height, 0.34 ft).

Period of record: Maximum discharge, 14,800 cfs Sept. 13, 1915 (gage height, 11.4 ft, from floodmarks, from rating curve extended above 7,500 cfs; minimum, 35 cfs Sept. 19, 1959 (gage height, -0.16 ft).

REMARKS.--Records good except those for winter periods, which are fair. Records of chemical analyses for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1238: 1914-16, 1918, 1922, 1927, 1933. WSP 1338: Drainage area. WSP 1508: 1916-17(M), 1919(M), 1920, 1921(M), 1927-28(M), 1930(M), 1931, 1936(M), 1943(M).

Rating table (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 13-15, Dec. 22 to Mar. 2.)

0.3	138	2.0	561
.6	197	3.0	912
1.0	280	4.0	1,270
1.5	409	5.0	1,630

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	272	297	238	156	158	1,600	670	353	274	207	187	169
2	251	276	234	160	158	1,300	571	331	376	202	190	173
3	248	270	234	162	158	980	538	320	371	197	204	174
4	238	301	232	154	160	777	489	315	326	195	194	172
5	213	276	234	150	164	577	439	323	274	196	182	178
6	199	268	185	148	160	541	427	334	257	199	181	200
7	224	259	187	144	154	601	413	323	250	195	180	193
8	283	250	217	144	150	560	402	309	240	214	177	180
9	293	248	231	146	150	472	394	289	234	231	176	174
10	282	255	221	148	154	395	376	296	229	227	178	170
11	261	261	177	150	160	410	365	293	231	213	234	168
12	258	255	181	152	158	385	363	286	233	203	231	166
13	246	248	180	152	156	400	390	285	231	201	202	161
14	239	242	178	150	156	542	422	276	218	197	182	156
15	229	235	180	146	156	803	443	274	212	192	214	155
16	221	231	199	144	158	1,130	429	267	211	189	220	156
17	217	229	247	144	166	1,150	424	262	207	191	207	154
18	215	230	252	142	200	973	418	265	203	199	197	157
19	213	229	250	144	560	804	396	271	202	203	198	170
20	212	243	224	150	1,400	633	392	264	250	195	183	177
21	212	258	197	160	1,600	539	415	257	320	191	180	184
22	212	276	190	164	1,700	530	440	251	356	185	176	177
23	216	219	180	166	1,600	556	455	248	294	187	180	174
24	221	231	170	166	1,500	528	412	258	272	195	193	169
25	225	246	160	164	1,300	488	369	270	257	201	200	169
26	254	230	156	162	1,300	459	344	251	256	225	192	175
27	236	230	150	160	1,800	473	331	245	246	234	187	192
28	297	236	148	158	1,700	641	353	252	234	213	182	207
29	378	241	148	158	------	733	376	245	221	198	172	197
30	397	234	150	158	------	816	345	242	214	195	175	182
31	340	------	152	158	------	784	------	237	------	191	172	------
TOTAL	7,802	7,504	6,082	4,760	17,336	21,580	12,601	8,692	7,699	6,261	5,916	5,229
MEAN	252	250	196	154	619	696	420	280	257	202	191	174
MAX	397	301	252	166	1,800	1,600	670	353	376	234	234	207
MIN	199	219	148	142	150	385	331	237	202	185	172	154
CFSM	.48	.47	.37	.29	1.17	1.32	.80	.53	.49	.38	.36	.33
IN.	.55	.53	.43	.34	1.22	1.52	.89	.61	.54	.44	.42	.37

CAL YR 1970 TOTAL 87,193 MEAN 239 MAX 808 MIN 131 CFSM .45 IN 6.15
WTR YR 1971 TOTAL 111,462 MEAN 305 MAX 1,800 MIN 142 CFSM .58 IN 7.87

PEAK DISCHARGE (BASE, 1,300 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
2-22	0400	6.66	a2,100	2-27	0800	6.23	a2,000

a About.

05437500 Rock River at Rockton, Ill.

LOCATION.--Lat 42°27'05", long 89°04'20", in SE 1/4 NW 1/4 sec.24, T.46 N., R.1 E., Winnebago County, on left bank at upstream side of bridge on State Highway 2 in Rockton, 0.8 mile downstream from Pecatonica River.

DRAINAGE AREA.--6,290 sq mi, approximately.

PERIOD OF RECORD.--June 1903 to July 1906, October 1906 to March 1909, July 1914 to September 1919, October 1939 to current year. Published as "below mouth of Pecatonica River at Rockton" 1903-09; as "at Rockford" 1914-19. Monthly discharge only for some periods, published in WSP 1308.

GAGE.--Water-stage recorder. Datum of gage is 707.94 ft above mean sea level (levels by Corps of Engineers). Prior to Oct. 1, 1906, nonrecording gage at same site at datum about 1 ft higher. Oct. 1, 1906, to Mar. 31, 1909, nonrecording gage at same site at datum about 2 ft higher. July 30, 1914, to Apr. 30, 1919, nonrecording gage at site at Rockford about 21 miles downstream, at different datum.

AVERAGE DISCHARGE.--39 years (1903-5, 1914-19, 1939-71), 3,645 cfs (7.87 inches per year), discharge for site at Rockford adjusted for difference in drainage area.

EXTREMES.--Current year: Maximum discharge, 17,800 cfs Feb. 27 (gage height, 11.22 ft); minimum daily, 695 cfs Sept. 16.

Period of record: Maximum discharge, 32,500 cfs Mar. 30, 1916 (gage height, 13.06 ft, site and datum then in use); minimum daily, 501 cfs Sept. 14, 1958.

Flood in February 1937 reached a stage of 14.6 ft (backwater from ice), from painted floodmark.

REMARKS.--Records good except those for winter periods, which are poor. Low flow regulated by powerplants above station.

REVISIONS (WATER YEARS).--WSP 325: 1903-9. WSP 895: 1904(M). WSP 1508: 1915, 1916-17(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3,910	3,890	2,800	2,250	2,250	14,800	10,300	6,300	3,290	2,320	1,370	1,240
2	3,790	3,790	2,670	2,270	2,200	14,100	9,930	6,150	4,000	2,320	1,340	1,160
3	3,500	3,640	2,730	2,140	2,150	13,600	9,660	6,100	4,170	2,170	1,330	1,230
4	3,280	3,700	2,990	2,350	2,050	13,000	9,480	5,850	3,750	2,020	1,440	1,140
5	2,900	3,700	2,750	2,280	2,100	12,100	9,280	5,680	4,160	1,910	1,360	1,280
6	2,620	3,460	2,390	2,350	2,100	11,500	9,000	5,790	3,630	1,930	1,410	1,230
7	2,130	3,520	2,430	2,450	2,050	10,800	8,690	5,740	3,210	1,870	1,330	1,320
8	2,530	3,430	2,770	2,400	2,000	9,950	8,390	5,460	2,910	2,080	1,200	1,330
9	2,580	3,480	2,680	2,300	2,000	9,070	8,120	5,240	3,040	2,220	1,290	1,240
10	2,850	3,650	2,660	2,200	2,000	8,310	7,910	5,190	2,630	2,220	1,290	1,230
11	2,870	3,960	2,720	2,150	1,950	7,630	7,660	5,050	2,720	1,990	1,640	1,190
12	3,010	3,910	2,590	2,100	2,050	7,200	7,340	4,910	2,430	2,030	1,560	1,140
13	2,750	3,910	2,740	2,150	2,100	6,980	7,310	4,330	1,980	1,790	1,360	1,150
14	2,340	3,860	2,620	2,120	2,100	7,160	7,500	4,080	2,090	1,600	1,470	1,360
15	2,260	3,770	2,460	2,080	2,050	8,100	7,320	3,980	2,190	1,610	1,570	1,120
16	2,310	3,460	3,190	2,150	2,150	8,500	7,200	3,750	2,270	1,610	1,450	695
17	1,810	3,380	3,210	2,050	2,350	8,890	7,410	3,630	1,910	1,600	1,440	972
18	2,110	3,410	3,230	2,100	3,300	9,430	7,490	3,550	1,830	1,640	1,410	1,180
19	1,950	3,380	3,250	2,250	8,370	10,200	7,510	3,330	1,790	1,490	1,450	1,010
20	1,940	3,410	2,890	2,320	13,600	10,200	7,530	2,820	2,000	1,560	1,330	1,220
21	2,050	3,330	2,500	2,090	12,300	10,400	7,650	2,380	2,290	1,540	1,270	1,180
22	2,000	3,530	2,890	2,280	12,500	10,600	7,710	2,720	2,420	1,290	1,250	1,070
23	2,030	2,900	2,890	2,160	12,900	10,600	7,500	2,720	2,460	1,390	1,300	1,130
24	2,050	2,750	1,910	2,120	13,600	10,700	7,330	2,720	2,470	1,470	1,340	1,150
25	2,110	2,990	2,530	2,250	13,900	10,600	7,190	2,900	2,600	1,470	1,290	1,140
26	2,070	2,430	2,620	2,140	14,400	10,200	6,930	2,960	2,560	1,810	1,290	1,220
27	2,100	2,480	2,720	2,170	17,200	9,370	6,820	3,350	2,470	2,000	1,200	1,080
28	3,060	2,580	2,700	2,240	15,300	10,100	6,700	3,090	2,430	1,490	1,260	1,170
29	3,870	2,750	2,570	2,330	------	10,600	6,460	3,230	2,290	1,100	1,240	1,200
30	4,080	2,770	2,540	2,300	------	10,400	6,280	2,990	2,330	1,260	1,200	1,210
31	3,940	------	2,340	2,300	------	10,300	------	2,980	------	1,400	1,180	------
TOTAL	82,800	101,220	83,980	68,840	173,020	315,390	235,600	128,970	80,320	54,200	41,860	34,987
MEAN	2,671	3,374	2,709	2,221	6,179	10,170	7,853	4,160	2,677	1,748	1,350	1,166
MAX	4,080	3,960	3,250	2,450	17,200	14,800	10,300	6,300	4,170	2,320	1,640	1,360
MIN	1,810	2,430	1,910	2,050	1,950	6,980	6,280	2,380	1,790	1,100	1,180	695
CFSM	.42	.54	.43	.35	.98	1.62	1.25	.66	.43	.28	.21	.19
IN.	.49	.60	.50	.41	1.02	1.87	1.39	.76	.48	.32	.25	.21

CAL YR 1970 TOTAL 977,865 MEAN 2,679 MAX 7,240 MIN 796 CFSM .43 IN 5.78
WTR YR 1971 TOTAL 1,401,187 MEAN 3,839 MAX 17,200 MIN 695 CFSM .61 IN 8.29

05527800 Des Plaines River at Russell, Ill.

LOCATION.--Lat 42°29'22", long 87°55'32", in SE 1/4 sec.3, T.46 N., R.11 E., Lake County, at center on downstream side of bridge on Russell Road, 0.3 mile west of Russell, and at mile 109.14.

DRAINAGE AREA.--124 sq mi.

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1961-63, and annual maximum stages, water years 1962-66, June 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 662.00 ft above mean sea level. Oct. 17, 1961, to June 29, 1967, crest-stage gage at left downstream side of bridge at datum 4.29 ft higher.

EXTREMES.--Current year: Maximum discharge, 898 cfs Feb. 23 (gage height, 8.61 ft); minimum, 0.14 cfs Sept. 18.

Period of record: Maximum discharge, 898 cfs Feb. 23, 1971 (gage height, 8.61 ft); maximum gage height, 8.65 ft, present datum, Mar. 22, 1962; no flow Aug. 29 to Sept. 2, 1970.

Maximum stage since 1938, 9.69 ft, present datum, in April 1960, from floodmark.

REMARKS.--Records good except those for winter periods, which are poor.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	366	158	117	31	6.4	768	341	34	7.8	3.8	1.8	1.1
2	342	165	117	31	5.8	688	327	31	10	2.8	3.0	.90
3	312	180	114	33	5.6	605	302	33	13	3.0	2.8	1.4
4	280	196	107	36	6.5	528	269	32	13	3.9	3.2	1.9
5	245	210	100	38	35	433	235	28	9.2	3.7	2.6	1.5
6	207	220	85	36	26	361	204	31	8.2	2.3	1.9	2.0
7	164	226	76	33	21	310	178	31	7.3	1.8	3.1	2.2
8	119	226	66	30	16	266	156	27	7.5	46	2.8	1.0
9	82	218	60	28	12	215	139	23	5.4	68	1.7	.78
10	68	209	58	26	10	163	121	21	6.1	60	2.0	.78
11	54	198	64	25	8.3	144	107	19	5.0	48	2.0	.90
12	43	190	83	24	7.2	118	95	18	4.4	38	1.4	.78
13	36	186	96	23	6.7	116	103	18	5.2	27	1.1	1.5
14	41	181	99	21	6.4	152	117	15	5.9	15	2.0	1.4
15	48	170	93	19	6.1	243	116	14	6.3	10	1.5	.60
16	47	153	86	17	6.4	320	104	12	9.8	7.0	1.7	.40
17	40	135	89	14	15	375	93	11	7.5	5.5	1.8	.24
18	33	117	95	12	80	387	82	11	6.6	4.5	1.1	.36
19	29	101	100	11	300	371	72	11	23	3.8	1.2	1.6
20	26	102	104	12	580	338	64	11	22	3.2	1.1	.84
21	27	120	101	13	718	310	58	9.2	18	2.6	1.1	.66
22	28	131	93	12	766	306	54	7.5	12	2.2	1.6	.90
23	27	128	84	10	853	311	49	7.3	9.0	2.1	1.3	.84
24	26	126	78	9.0	828	307	44	8.0	6.6	2.3	1.1	.78
25	26	126	74	8.0	788	296	39	18	5.2	2.2	1.8	.72
26	27	109	67	8.5	766	287	34	24	4.7	2.0	2.0	1.6
27	27	76	55	9.3	826	274	31	19	5.0	3.8	2.3	3.0
28	35	86	45	9.8	836	280	35	14	5.0	3.4	2.2	2.3
29	84	98	39	9.0	------	303	40	10	3.0	2.0	1.8	2.0
30	123	108	35	8.0	------	332	38	8.7	4.2	1.7	1.7	1.7
31	146	------	32	7.0	------	346	------	8.2	------	1.4	2.6	------
TOTAL	3,158	4,649	2,512	603.6	7,541.4	10,253	3,647	564.9	255.9	383.0	59.3	36.68
MEAN	102	155	81.0	19.5	269	331	122	18.2	8.53	12.4	1.91	1.22
MAX	366	226	117	38	853	768	341	34	23	68	3.2	3.0
MIN	26	76	32	7.0	5.6	116	31	7.3	3.0	1.4	1.1	.24
CFSM	.82	1.25	.65	.16	2.17	2.67	.98	.15	.07	.10	.02	.010
IN.	.95	1.39	.75	.18	2.26	3.08	1.09	.17	.08	.11	.02	.01

CAL YR 1970 TOTAL 32,603.85 MEAN 89.3 MAX 504 MIN 0 CFSM .72 IN 9.78
WTR YR 1971 TOTAL 33,663.78 MEAN 92.2 MAX 853 MIN .24 CFSM .74 IN 10.10

05543830 Fox River at Waukesha, Wis.

LOCATION.--Lat 43°00'17", long 88°14'37", in SW 1/4 sec.3, T.6 N., R.19 E., Waukesha County, on left bank 20 ft downstream from Prairie Street bridge in Waukesha, 1.0 mile downstream from dam and 3.2 miles downstream from Pewaukee River.

DRAINAGE AREA.--127 sq mi.

PERIOD OF RECORD.--January 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is 793.04 ft above mean sea level (levels by city of Waukesha).

AVERAGE DISCHARGE.--8 years, 65.4 cfs (6.99 inches per year).

EXTREMES.--Current year: Maximum discharge, 660 cfs Mar. 1 (gage height, 4.87 ft); minimum, 3.0 cfs Sept. 18, 19 (gage height, 1.54 ft).

Period of record: Maximum discharge, 1,240 cfs Mar. 6, 1965 (gage height, 5.79 ft); minimum, 3.0 cfs Jan. 1, 1964 (gage height, 1.52 ft), Sept. 18, 19, 1971 (gage height, 1.54 ft).

REMARKS.--Records good except those for winter periods, which are fair. Occasional regulation from mill dam one mile upstream.

Rating table (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Jan. 4 to Feb. 17.)

1.5	2.1	1.8	13	3.0	162
1.6	4.4	2.0	27	4.0	395
1.7	8.0	2.5	81	5.0	705

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	49	43	30	26	585	359	93	67	30	15	15
2	24	48	44	30	26	520	327	91	75	27	24	15
3	23	54	45	30	27	473	304	85	71	24	16	15
4	22	63	46	31	27	409	286	86	58	23	17	15
5	22	66	45	31	28	337	262	84	48	22	16	15
6	23	54	42	31	28	310	242	79	42	23	16	14
7	21	47	37	30	27	267	193	74	39	23	15	15
8	21	60	35	29	27	268	205	71	37	64	13	15
9	22	65	33	29	27	235	186	69	35	58	16	12
10	22	55	34	29	27	209	162	69	32	70	15	12
11	20	63	36	28	27	193	164	74	32	32	13	11
12	19	55	33	29	27	198	168	81	31	15	13	11
13	20	52	33	29	27	192	251	79	36	5.8	15	11
14	19	66	32	29	27	237	269	75	41	8.0	43	12
15	21	39	32	28	28	476	255	71	42	21	30	56
16	19	38	33	29	30	601	255	69	40	24	25	15
17	18	37	35	28	36	585	262	65	36	19	20	11
18	17	37	38	29	98	547	214	67	39	18	17	8.0
19	20	36	38	29	128	411	188	64	40	24	16	6.6
20	20	57	33	28	194	337	176	63	71	18	17	4.2
21	21	52	36	29	233	310	164	55	69	18	17	4.4
22	21	56	37	29	233	295	138	47	65	17	29	5.1
23	21	60	38	30	232	276	116	46	63	21	23	8.0
24	21	48	32	31	237	276	111	56	58	18	28	11
25	20	35	33	32	258	267	95	96	56	23	23	13
26	21	33	34	32	337	253	86	101	48	20	21	13
27	27	34	33	31	450	251	91	89	43	18	19	14
28	67	39	26	30	532	264	100	79	39	18	15	13
29	80	38	23	29	------	337	102	65	35	17	15	13
30	64	42	28	28	------	363	97	55	32	15	15	13
31	55	------	24	26	------	363	------	46	------	15	15	------
TOTAL	835	1,398	1,092	909	3,396	10,595	5,805	2,242	1,420	747.8	591	396.3
MEAN	26.9	46.6	35.2	29.3	121	342	194	72.3	47.3	24.1	19.1	13.2
MAX	80	66	46	32	532	601	359	101	75	70	43	56
MIN	17	33	23	26	26	192	86	46	31	5.8	13	4.2
CFSM	.21	.37	.28	.23	.95	2.69	1.53	.57	.37	.19	.15	.10
IN.	.24	.41	.32	.27	.99	3.10	1.70	.66	.42	.22	.17	.12

CAL YR 1970 TOTAL 21,917.0 MEAN 60.0 MAX 502 MIN 18 CFSM .47 IN 6.42
WTR YR 1971 TOTAL 29,415.1 MEAN 80.6 MAX 601 MIN 4.2 CFSM .63 IN 8.62

05545000 North Lake near Elkhorn, Wis.

LOCATION.--Lat 42°44'38", long 88°37'45", in SE 1/4 sec.5, T.3 N., R.16 E., Walworth County, attached to post in lake near end of road at south end of lake, 6.5 miles northwest of Elkhorn.

DRAINAGE AREA.--1 sq mi, approximately. Area of North Lake, 350 acres, approximately, at high stage.

PERIOD OF RECORD.--May 1937 to current year (fragmentary). Published as Holden Lake prior to October 1958.

GAGE.--Nonrecording gage read about once weekly or more often except during winter. Altitude of gage is 900 ft (from topographic map).

EXTREMES.--Current year: Maximum gage height observed, 9.19 ft Apr. 19; minimum observed, 8.00 ft Oct. 24.
Period of record: Maximum gage height observed, 12.45 ft Mar. 25, 1939; lake dry for parts of period July to December 1958.

REMARKS.--Lake has no surface outlet. Lake ice covered Dec. 1 through Apr. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								9.18				
2												
3	8.20						9.13		9.15	8.92		
4												8.91
5									9.12			
6												
7		8.28									8.82	
8								9.18				
9												
10	8.15						9.14			9.07		
11												8.72
12		8.35				8.91			9.07			
13												
14		8.25								9.02	8.92	
15								9.11				
16			8.46									
17	8.10						9.14			9.02		
18												7.67
19							9.19		9.02			
20												
21		8.25									8.87	
22								9.01				
23						9.15	9.19					
24	8.00									9.02		
25									9.12			8.67
26												
27						9.18						
28		8.35		8.56							8.89	
29								9.01				
30					------							
31	8.20	------			------		------		------	8.87		------

05545550 Rockland Lake near Burlington, Wis.

LOCATION.--Lat 42°40'34", long 88°14'57", in NE 1/4 SE 1/4 sec.33, T.3 N., R.19 E., Racine County, about 3/4 mile east of Burlington at Camp MacLean.

DRAINAGE AREA.--0.99 sq mi. Area of Rockland Lake, 45 acres.

PERIOD OF RECORD.--January 1967 to current year.

GAGE.--Nonrecording gage. Altitude of gage is 758 ft (from topographic map).

EXTREMES.--Current year: Maximum gage height observed, 5.50 ft Mar. 25, 30, Apr. 15, 24; minimum observed, 4.49 ft Sept. 22.

Period of record: Maximum gage height observed, 5.58 ft July 30, 1969; minimum gage height, 4.49 ft Sept. 22, 1971.

REMARKS.--Lake ice covered Dec. 7 through Apr. 9.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									5.05			
2	4.81											
3		4.90	4.99			5.40				4.92		
4					5.06							
5				5.04				5.36				
6											4.68	
7										4.90		
8							5.47					
9			4.90									
10	4.81					5.39						
11		4.91			5.05						4.67	4.54
12												
13								5.37				
14	4.80											
15							5.50			4.90		
16				5.04								
17					5.05	5.43						
18											4.65	4.53
19		4.85	4.92									
20												
21								5.19		4.85		
22	4.73			5.05								4.49
23												
24					5.35		5.50					
25						5.50			5.03			
26			4.94								4.64	
27										4.80		
28	4.90			5.05				5.13	4.99			4.50
29					------							
30					------		5.62				4.63	
31		------	4.96		------	5.50	------		------			------

05546500 Fox River at Wilmot, Wis.

LOCATION.--Lat 42°30'40", long 88°10'45", in SW 1/4 sec.30, T.1 N., R.20 E., Kenosha County, on right bank 100 ft downstream from bridge on County Trunk C, 300 ft upstream from Wilmot Dam, 1.0 mile north of Wisconsin-Illinois State line, and 6.0 miles upstream from Fox chain of lakes.

DRAINAGE AREA.--868 sq mi.

PERIOD OF RECORD.--October 1939 to current year.

GAGE.--Water-stage recorder and concrete dam. Datum of gage is 735.22 ft above mean sea level. Prior to Sept. 1, 1956, nonrecording gage and concrete dam.

AVERAGE DISCHARGE.--31 years, 456 cfs (7.13 inches per year).

EXTREMES.--Current year: Maximum discharge, 3,010 cfs Mar. 1 (gage height, 7.36 ft); minimum daily, 117 cfs Sept. 15-17.

Period of record: Maximum discharge, 7,520 cfs Mar. 31, 1960 (gage height, 9.25 ft, from graph based on gage readings); no flow part of day Oct. 26, 1945; minimum daily discharge, 35 cfs Sept. 9, 1958.

REMARKS.--Records good except those for winter periods, which are fair. Three 6-foot lift gates in Wilmot Dam were in operation during the year; discharge through gates computed by weir and orifice formulas and added to flow over dam.

REVISIONS (WATER YEARS).--WSP 1308: 1943(M), 1945(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	501	608	511	312	290	2,900	1,810	637	334	244	132	167
2	460	572	505	299	290	2,860	1,740	637	380	235	139	155
3	415	579	511	293	295	2,790	1,660	595	458	208	155	151
4	386	602	551	309	300	2,620	1,550	556	417	180	163	143
5	339	552	534	330	295	2,420	1,450	550	391	137	147	151
6	330	650	366	326	285	2,250	1,370	567	360	156	139	155
7	339	602	371	329	278	2,090	1,290	561	319	144	132	151
8	339	516	409	320	276	1,950	1,220	512	305	267	132	143
9	339	544	534	320	278	1,730	1,200	507	292	590	128	139
10	334	637	414	318	290	1,670	1,130	501	269	369	128	135
11	334	722	329	319	280	1,510	1,010	486	232	334	128	132
12	330	662	479	314	290	1,430	973	507	249	296	128	128
13	324	701	414	312	280	1,360	1,070	383	261	249	128	124
14	314	669	311	312	272	1,450	1,170	391	265	232	151	121
15	278	613	303	302	270	1,760	1,080	387	261	203	179	117
16	252	633	471	300	280	2,290	1,020	334	249	143	183	117
17	227	605	461	300	290	2,360	973	344	232	155	179	117
18	210	633	469	300	442	2,180	997	314	208	151	183	124
19	219	650	439	300	811	2,030	997	310	240	159	197	155
20	221	512	289	300	1,450	1,850	1,010	310	292	163	179	188
21	219	584	282	303	1,730	1,780	966	319	329	147	155	170
22	215	566	289	290	1,740	1,830	896	310	316	132	151	155
23	199	296	280	287	1,700	1,860	836	287	329	128	171	147
24	230	323	276	287	1,670	1,820	813	278	334	139	192	143
25	246	404	367	280	1,610	1,740	749	301	314	151	242	135
26	269	396	332	270	1,760	1,630	650	360	314	159	237	132
27	314	352	332	260	2,160	1,560	632	385	301	163	210	151
28	363	386	332	260	2,500	1,590	688	385	278	143	188	159
29	576	417	367	280	------	1,730	715	375	249	147	175	179
30	619	525	369	300	------	1,870	669	360	240	147	167	175
31	613	------	332	300	------	1,860	------	339	------	139	167	------
TOTAL	10,311	15,868	12,273	9,266	22,432	60,600	32,332	13,088	8,996	6,190	5,085	4,368
MEAN	333	529	396	299	801	1,955	1,078	422	300	200	164	146
MAX	619	722	551	330	2,500	2,900	1,810	637	458	590	242	188
MIN	199	296	276	260	270	1,360	632	278	208	128	128	117
CFSM	.38	.61	.46	.34	.92	2.25	1.24	.49	.35	.23	.19	.17
IN.	.44	.68	.53	.40	.96	2.60	1.39	.56	.39	.27	.22	.19

CAL YR 1970 TOTAL 171,909 MEAN 471 MAX 1,790 MIN 102 CFSM .54 IN 7.37
WTR YR 1971 TOTAL 200,793 MEAN 550 MAX 2,900 MIN 117 CFSM .63 IN 8.61

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or flood-flow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at partial-record stations are presented in two tables. The first is a table of discharge measurements at low-flow partial-record stations and the second is a table of annual maximum stage and discharge at crest-stage stations. Discharge measurements made at miscellaneous sites for both low flow and high flow are given in a third table.

Low-flow partial-record stations

Measurements of streamflow in the area covered by this report made at low-flow partial-record stations are given in the following table. Most of these measurements were made during periods of base flow when streamflow is primarily from ground-water storage. These measurements, when correlated with the simultaneous discharge of a nearby stream where continuous records are available, will give a picture of the low-flow potentiality of the stream. The column headed "Period of record" shows the water years in which measurements were made at the same, or practically the same, site. Measurements have been made at numerous other stations throughout the State since 1961. These measurements are published in preceding Water Resources Data for Wisconsin publications.

Discharge measurements made at low-flow partial-record stations during water year 1971

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (cfs)
		Streams tributary to Lake Superior				
04024350	Black River near Chaffey, Wis.	S 1/2 sec.19, T.46 N., R.14 W., at bridge on State Highway 35, 4.0 miles southeast of Patzau.	d53.6	1964 1967 1969-71	5-11-71 6-17-71	33.8 34.8
04025000	Amnicon River near Poplar, Wis.	On common boundary of secs.29 and 32, T.48 N., R.12 W., at bridge on U.S. Highway 2, 4.5 miles northwest of Poplar.	112	1964 1967 1969-71	5-11-71 6-17-71	91.1 57.2
04025100	Middle River near Poplar, Wis.	SE 1/4 sec.12, T.48 N., R.12 W., at bridge on State Highway 13, 4.6 miles north of Poplar.	51.6	1964 1967 1969-71	5-11-71	32.8
04026030	Reefer Creek near Port Wing, Wis.	NW 1/4 sec.4, T.49 N., R.9 W., at bridge on State Highway 13, 5.8 miles southwest of Port Wing.	d10.9	1964 1967 1969-71	5-12-71 6-17-71	2.32 4.03
04026120	Flag River at Port Wing, Wis.	Center of sec.28, T.50 N., R.8 W., at bridge on State Highway 13, just northeast of Port Wing.	d33.9	1964 1967 1969-71	5-12-71 6-17-71	36.4 27.2
04026190	Sand River near Red Cliff, Wis.	NE 1/4 sec.14, T.51 N., R.5 W., at bridge on State Highway 13, 8.5 miles northwest of Red Cliff.	28.2	1964 1967 1969-71	5-12-71 6-17-71	11.42 5.02
*04026300	Sioux River near Washburn, Wis.	NE 1/4 sec.35, T.49 N., R.5 W., at twin concrete box culvert on County Trunk C, 2 1/4 miles west of Washburn.	d35.2	1962-64 b1964-66 c1967-71	5-12-71 6-17-71	12.71 8.91
04026350	North Fish Creek near Ashland, Wis.	SW 1/4 sec.2, T.47 N., R.5 W., at bridge on U.S. Highway 2, 3.0 miles west of Ashland.	d88.1	1967 1969-71	1- 5-71 5-12-71 6-17-71	71.2 91.8 70.0
*04026400	Spillerberg Creek near Cayuga, Wis.	NW 1/4 sec.21, T.43 N., R.2 W., at concrete culvert pipe on State Highway 13, 4 1/4 miles southeast of Cayuga.	a6.18	1961-67 1969-71	6-16-71	1.13
04026500	Bad River at Mellen, Wis.	NW 1/4 sec.6, T.44 N., R.2 W., at State Highway 13 at Mellen.	d105	1948-55≠ 1969-71	5-12-71 6-16-71 7- 8-71	98.5 24.3 34.3
04026550	Tyler Forks River near Upson, Wis.	SE 1/4 sec.28, T.45 N., R.1 W., at culvert on State Highway 77, 4.3 miles southwest of Upson.	41.3	1967 1969-71	5-12-71 6-16-71	35.4 9.68

* Also a crest-stage station.
≠ Operated as a continuous-record gaging station.
a Approximately.
b Operated as a seasonal continuous-record gaging station.
c Operated as a seasonal continuous-record gaging station without records being published.
d Revised.

Discharge measurements made at low-flow partial-record stations during water year 1971

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (cfs)
Streams tributary to Lake Superior--Continued						
04026600	Marengo River near Marengo, Wis.	NW 1/4 sec.36, T.46 N., R.4 W., at bridge on State Highway 13, 0.2 miles north of Marengo.	a101	1967 1969-71	1-13-71 1-18-71 6-16-71	74.4 45.8 38.3
04026650	Trout Brook near Highbridge, Wis.	SW 1/4 sec.8, T.45 N., R.3 W., at culvert on State Highway 13, 1.9 miles west of Highbridge.	d8.60	1967 1969-71	5-13-71 6-16-71	9.94 2.31
04026900	Potato River near Gurney, Wis.	SW 1/4 sec.16, T.46 N., R.1 W., at bridge on State Highway 169, 0.7 mile south of Gurney.	a92.7	1967 1969-71	12-16-70 5-12-71 6-16-71	62.0 97.7 22.0
04027900	Layman Creek near Hurley, Wis.	NE 1/4 sec.6, T.44 N., R.3 E., at bridge on U.S. Highway 51, 8.0 miles southeast of Montreal.	a17.8	1967 1969-71	5-12-71 6-16-71	14.8 1.79
*04029700	Boomer Creek near Saxon, Wis.	N 1/2 sec.3, T.46 N., R.1 E., at concrete culvert pipe on U.S. Highway 2, 3.0 miles east of Saxon.	d5.94	1961-64 1966-69 1970-71	6-16-71	.22
Streams tributary to Lake Michigan						
04073300	Chaffee Creek near Neshkoro, Wis.	NE 1/4 sec.18, T.17 N., R.10 E., at bridge on country road, 6.5 miles west of Neshkoro.	a40	1962-64 1966-67 1970-71	9- 1-71	35.0
*04079700	Spaulding Creek near Big Falls, Wis.	On common boundary of secs.14 and 15, T.25 N., R.12 E., at concrete culvert on County Trunk E, 1.5 miles north of Big Falls.	a4.9	1962-64 b1964-66 c1967-71	7-20-71	3.14
St. Croix River Basin						
05331700	Moose River near Solon Springs, Wis.	On common boundary of secs.14 and 23, T.44 N., R.13 W., at bridge on County Trunk M, 7.8 miles southwest of Solon Springs.	49.9	1964 1967 1969-71	5-12-71	29.3
05331900	Chippanazie Creek at Stanberry, Wis.	NW 1/4 sec.33, T.41 N., R.10 W., at culvert on U.S. Highway 63, 0.8 miles southwest of Stanberry.	a33.8	1964 1967 1969-71	5-12-71 6-17-71	24.0 52.8
05331950	Bean Brook near Spring Brook, Wis.	NE 1/4 sec.1, T.39 N., R.11 W., at culvert on County Trunk M, 3.5 miles southeast of Spring Brook.	a38.1	1964 1967 1969-71	5-12-71 6-17-71	36.2 26.6
05332700	Stuntz Brook near Minong, Wis.	SW 1/4 sec.23, T.41 N., R.13 W., at culvert on County Trunk F, 8.8 miles southwest of Minong.	18.2	1964 1967 1969-71	5-12-71 6-18-71	6.15 3.31
05333060	Ounce River near Gordon, Wis.	SW 1/2 sec.30, T.43 N., R.10 W., at bridge on country road, 7.8 miles southeast of Gordon.	a41.7	1964 1967 1969-71	5-12-71	31.6
05333080	Frog Creek near Minong, Wis.	NW 1/4 sec.20, T.42 N., R.11 W., at bridge on country road, 2.4 miles northeast of Minong.	a31.7	1964 1967 1969-71	5-12-71	20.1
*05333100	Little Frog Creek near Minong, Wis.	NW 1/4 sec.29, T.42 N., R.11 W., at culvert on country road, 2 1/2 miles east of Minong.	13.6	1961 1963-71	5-12-71	6.04
05333510	Chases Brook near Danbury, Wis.	NE 1/4 sec.32, T.42 N., R.15 W., at bridge on country road, 7.0 miles northeast of Danbury.	a38.0	1964 1967 1969-71	5-11-71 6-17-71	22.7 20.1

* Also a crest-stage station.
a Approximately.
b Operated as a seasonal continuous-record gaging station.
c Operated as a seasonal continuous-record gaging station without records being published
d Revised.

Discharge measurements made at low-flow partial-record stations during water year 1971

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (cfs)
		St. Croix River Basin--Continued				
05334500	Yellow River at Webster, Wis.	On common boundary of secs.4 and 5, T.39 N., R.16 W., at bridge on State Highway 35, 1.3 miles north of Webster.	228	1914≠ 1964 1967 1969-71	5-11-71 6-17-71	202 133
05338900	Wood River near Siren, Wis.	On common boundary of secs.27 and 28, T.38 N., R.17 W., at bridge on country road, 4.8 miles southwest of Siren.	26.8	1964 1967 1969-71	5-11-71 6-17-71	.94 1.08
05338950	North Fork Wood River near Grantsburg, Wis.	E 1/2 sec.8, T.38 N., R.18 W., at bridge on country road, 3.5 miles northeast of Grantsburg.	67.3	1964 1967 1969-71	5-11-71 6-16-71	13.3 13.3
05340400	Wolf Creek near St. Croix Falls, Wis.	SE 1/4 sec.33, T.36 N., R.19 W., at bridge on County Trunk G, 11 miles northwest of St. Croix Falls.	29.3	1964 1967 1969-71	5-11-71 6-16-71	9.30 5.14
		Chippewa River Basin				
05355420	Hay Creek near Hayward, Wis.	SW 1/4 sec.31, T.41 N., R.6 W., at culvert on country road, 15 miles east of Hayward.	a14.9	1967 1970-71	5-11-71 6-18-71	18.3 11.3
05355530	East Fork Chippewa River near Glidden, Wis.	On common boundary of secs.12 and 13, T.42 N., R.2 W., at bridge on State Highway 13, 0.7 mile southeast of Glidden.	a94.6	1967 1970-71	5-12-71 6-16-71	95.1 42.1
05359100	Springstead Creek near Park Falls, Wis.	SE 1/4 sec.16, T.40 N., R.3 E., at bridge on Forest Road No. 147, 16 miles east of Park Falls.	a21.4	1967 1970-71	5-12-71 6-17-71	24.0 15.6
05359350	Elk River near Phillips, Wis.	On common boundary of secs.33 and 34, T.38 N., R.2 E., at bridge on County Trunk H, 8.9 miles northeast of Phillips.	a42.1	1967 1970-71	5-11-71 6-16-71	30.0 14.9
		Wisconsin River Basin				
05392290	Willow River near Hazelhurst, Wis.	SE 1/4 sec.19, T.38 N., R.4 E., at culvert on country road, 14.9 miles west of Hazelhurst.	7.97	1969-71	5-11-71 6-16-71	7.68 3.11
05392320	Rocky Run Creek near Goodnow, Wis.	SE 1/4 sec.17, T.37 N., R.6 E., on country road, 4.3 miles west of Goodnow.	20.3	1969-71	5-13-71 6-17-71	27.2 20.1
*05392350	Bearskin Creek near Harshaw, Wis.	SW 1/4 sec.36, T.37 N., R.6 E., at culvert on County Trunk K, 2 1/8 miles southwest of Harshaw.	d27.8	1963-64 b1964-66 c1967-71	5-13-71 6-17-71	29.5 36.9
05392450	Little Rice River near Bradley, Wis.	NE 1/4 sec.23, T.36 N., R.5 E., at culvert on Kelly Fire Lane, 5.4 miles northwest of Bradley.	25.9	1969-71	5-13-71 6-16-71	22.9 13.5
05393200	Big Somo River near Tripoli, Wis.	NW 1/4 sec.10, T.35 N., R.4 E., at bridge on County Trunk T, 1.8 miles southeast of Tripoli.	a44.1	1967 1969-71	5-11-71 6-16-71	17.1 6.54
05393630	Little Pine Creek near Tomahawk, Wis.	On common boundary of secs.31 and 32, T.34 N., R.7 E., at culverts on County Trunk V, 6.5 miles southeast of Tomahawk.	21.1	1967 1969-71	5-11-71 6-16-71	9.46 11.8

* Also a crest-stage station.
≠ Operated as a continuous-record gaging station.
a Approximately.
b Operated as a seasonal continuous-record gaging station.
c Operated as a seasonal continuous-record gaging station without records being published.
d Revised.

Discharge measurements made at low-flow partial-record stations during water year 1971

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (cfs)
		Platte River Basin				
*05414200	Bear Branch near Platteville, Wis.	NW 1/4 sec.4, T.3 N., R.1 W., at box culvert on State Highway 81, 2.3 miles northwest of Platteville.	2.80	1961 1963-71	9- 2-71	.85
05414250	Blockhouse Creek near Dickeyville, Wis.	SW 1/4 sec.11, T.2 N., R.2 W., at bridge on U.S. Highway 151, 2.5 miles north of Dickeyville.	36.3	1963 1966-71	9- 1-71	7.22

* Also a crest-stage station.

Crest-stage partial-record stations

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Annual maximum discharge at crest-stage partial-record stations

Station No.	**Station name**	**Location**	**Drainage area (sq mi)**	**Period of record**	**Annual maximum**		
					Date	**Gage height (feet)**	**Dis-charge (cfs)**
		Streams tributary to Lake Superior					
04024400	Stony Brook near Superior, Wis.	SE 1/4 sec.4, T.47 N., R.14 W., at box culvert on State Highway 35, 12 1/2 miles south of toll bridge on U.S. Highways 2 and 35 at St. Louis River in Superior.	2.20	1959-71	4- 9-71	14.26	165
04025200	Pearson Creek near Maple, Wis.	Common boundary of secs.11 and 14, T.48 N., R.11 W., at box culvert on State Highway 13, 4 miles north of Maple.	4.01	1957-71	4- 9-71	14.59	420
04026200	Sand River tributary near Red Cliff, Wis.	NE 1/4 sec.14, T.51 N., R.5 W., at box culvert on State Highway 13, 8 miles northwest of Red Cliff.	1.14	1959-71	4- 9-71	11.39	125
*04026300	Sioux River near Washburn, Wis.	NE 1/4 sec.35, T.49 N., R.5 W., on County Trunk C, 2 1/2 miles west of Washburn.	d35.2	1959-65 1966≠ 1967-71	4- 9-71	12.8	580
*04026400	Spillerberg Creek near Cayuga, Wis.	NW 1/4 sec.21, T.43 N., R.2 W., at concrete culvert pipe on State Highway 13, 4 1/4 miles southeast of Cayuga.	6.18	1958-71	4- 9-71	12.46	97
04026700	Trout Brook tributary near Marengo, Wis.	NE 1/4 sec.7, T.45 N., R.3 W., at box culvert on State Highway 13, 2.6 miles southeast of Marengo.	.77	1960-71	4- 9-71	10.4	74
04026850	Apple Creek near Upson, Wis.	SE 1/4 sec.30, T.45 N., R.1 E., at 2-barrel corrugated culvert on graveled O'Brien Lake Road, 1.5 miles south of Upson.	5.39	1970-71	4-15-71	13.17	⌿
*04027200	Pearl Creek at Grandview, Wis.	NE 1/4 sec.22, T.45 N., R.6 W., at box culvert on U.S. Highway 63, 0.8 mile east of Grandview.	e16.9	1960-71	4- 9-71	12.5	240
*04029700	Boomer Creek near Saxon, Wis.	N 1/2 sec.3, T.46 N., R.1 E., at concrete culvert pipe on U.S. Highway 2, 3 miles east of Saxon.	5.94	1958-71	4- 9-71	14.0	180
		Streams tributary to Lake Michigan					
*04059900	Allen Creek tributary near Alvin, Wis.	North boundary sec.7, T.40 N., R.14 E., at culvert on State Highway 70, 2.2 miles southeast of Alvin.	a1.9	1960-71	10-28-70	10.37	7
04063640	North Branch Pine River at Windsor Dam near Alvin, Wis.	SE 1/4 sec.21, T.40 N., R.13 E., at bridge on country road at Windsor Dam 3.8 miles upstream from confluence of North and South Forks, 4 miles southwest of Alvin.	29.4	1967-68≠ 1970-71	4-15-71	3.11	107
04063688	South Branch Popple River near Newald, Wis.	NW 1/4 sec.26, T.38 N., R.15 E., at corrugated twin barrel culvert on unmarked gravel Forest Road 2159, 5.4 miles east of Newald.	8.44	1970-71	4-15-71	12.81	71

* Also a low-flow partial-record station.
≠ Operated as a continuous-record gaging station.
⌿ Discharge not determined.
a Approximately.
d Includes 20.3 sq mi without surface drainage.
e Includes 6.4 sq mi without surface drainage.

Annual maximum discharge at crest-stage partial-record stations

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Streams tributary to Lake Michigan--Continued					
*04063800	Woods Creek near Fence, Wis.	SE 1/4 sec.29, T.39 N., R.17 E., at box culvert on State Highway 101, 6 miles north of Fence.	41.4	1958-71	9-30-71	11.28	190
04064800	Little Popple River near Aurora, Wis.	SW 1/4 sec.1, T.38 N., R.18 E., at 3-barrel corrugated culvert on County Trunk Highway N, 5.5 miles west of Aurora.	35.0	1970-71	4-12-71	12.90	364
*04066300	Cole Creek near Dunbar, Wis.	South boundary sec.34, T.37 N., R.19 E., at culvert on U.S. Highway 8, 3.6 miles southeast of Dunbar.	a3.2	1960-71	9-30-71	10.5	20
04066700	McCall Creek at Wausaukee, Wis.	NW 1/4 sec.1, T.33 N., R.20 E., at culvert on U.S. Highway 141, 1 mile south of Wausaukee.	1.48	1959-71	9-30-71	10.7	8
04067500	Menominee River near McAllister, Wis.	Sec.17, T.33 N., R.23 E., 300 ft above highway bridge on County Trunk JJ, 2.9 miles east of McAllister.	a4,020	1945-61≠ 1962-71	4-19-71	16.63	21,500
04067760	Peshtigo River near Cavour, Wis.	SW 1/4 sec.29, T.37 N., R.15 E., at bridge on U.S. Highway 8, 0.7 mile northwest of Cavour.	153	1970-71	4-13-71	14.29	1,150
*04067800	Armstrong Creek near Armstrong Creek, Wis.	W 1/2 sec.27, T.37 N., R.16 E., at bridge on U.S. Highway 8, 1 3/4 miles northwest of Armstrong Creek.	23.1	1958-71	5-19-71	10.2	104
04069700	North Branch Oconto River near Wabeno, Wis.	SW 1/4 sec.9, T.34 N., R.15 E., at pipe arch culvert on County Trunk Highway C, 0.6 mile east of intersection with State Highway 32 in Wabeno.	32.2	1970-71	4-12-71	12.61	210
04071700	North Branch Little River near Coleman, Wis.	On common boundary of secs.2 and 3, T.29 N., R.20 E., at bridge on U.S. Highway 141, 3 3/4 miles south of Coleman.	23.3	1958-71	4-14-71	14.06	500
*04071800	Pensaukee River near Pulaski, Wis.	NE 1/4 sec.1, T.26 N., R.18 E., at bridge on State Highway 32 and 6.1 miles north of Pulaski.	41.8	1961-71	4-14-71	15.92	1,330
*04073400	Bird Creek at Wautoma, Wis.	S 1/2 sec.34, T.19 N., R.10 E., at concrete culvert on State Highway 21, 1/4 mile west of Wautoma.	3.59	1959-71	5-18-71	12.12	100
04074300	Mud Creek near Nashville, Wis.	SW 1/4 sec.30, T.36 N., R.12 E., at concrete circular culvert on U.S. Highway 8, 3 1/2 miles north of Nashville.	10.0	1970-71	5-24-71	12.76	⍻
*04074700	Hunting River near Elcho, Wis.	N 1/2 sec.24, T.34 N., R.10 E., at twin culverts on U.S. Highway 45 and State Highway 47, 1 1/2 miles south of Elcho.	a9.0	1958-71	5-24-71	11.79	70
*04074850	Lily River near Lily, Wis.	SE 1/4 sec.11, T.33 N., R.13 E., at culvert on County Trunk Highway A, 3.2 miles north from junction of State Highways 55 and 52 in Lily.	52.4	1970-71	4-11-71	10.41	81
*04079700	Spaulding Creek near Big Falls, Wis.	On common boundary of secs.14 and 15, T.25 N., R.12 E., at culvert on County Trunk E, 1.5 miles north of Big Falls.	a4.9	1959-65 1966≠ 1967-71	5-19-71	10.87	43
04081010	Waupaca River tributary near Waupaca, Wis.	NW 1/4 sec.1, T.21 N., R.12 E., at culvert on U.S. Highway 10, 5 miles southeast of Waupaca.	a1.0	1960-71	8-14-71	13.0	50

* Also a low-flow partial-record station.
≠ Operated as a continuous-record gaging station.
⍻ Discharge not determined.
a Approximately.

Annual maximum discharge at crest-stage partial-record stations

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum Date	Annual maximum Gage height (feet)	Annual maximum Discharge (cfs)
		Streams tributary to Lake Michigan--Continued					
04081900	Sawyer Creek at Oshkosh, Wis.	SW 1/4 sec.15, T.18 N., R.16 E., at bridge on U.S. Highway 41, 1 mile southwest of Algoma Street Fox River bridge in Oshkosh.	15.3	1961-71	3-15-71	16.1	1,500
04083400	East Branch Fond du Lac River tributary near Eden, Wis.	NE 1/4 sec.14, T.14 N., R.17 E., at culvert on U.S. Highway 41, 3 miles west of Eden.	1.19	1961-71	3-15-71	f12.58	65
*04085030	Apple Creek near Kaukauna, Wis.	On west boundary sec.2, T.21 N., R.18 E., at bridge on State Highway 55, 3 miles north of Kaukauna.	14.6	1960-71	3-15-71	13.86	610
04085100	East River tributary at Greenleaf, Wis.	NE 1/4 sec.8, T.21 N., R.20 E., at railroad box culvert, 1/2 mile south of Greenleaf.	8.0	1958-71	4-12-71	12.29	325
04085300	Neshota River tributary near Denmark, Wis.	NE 1/4 sec.7, T.22 N., R.22 E., at box culvert on U.S. Highway 141, 3 3/4 miles northwest of Denmark.	3.08	1959-71	4-12-71	12.55	80
*04085400	Killsnake River near Chilton, Wis.	E 1/2 sec.6, T.18 N., R.20 E., at bridge on country road, 2.4 miles northeast of Chilton.	29.5	1961-71	4- 1-71	12.4	880
*04085700	Sheboygan River tributary near Plymouth, Wis.	On common boundary of secs.2 and 11, T.15 N., R.21 E., at concrete culvert on County Trunk J, 3 1/2 miles northeast of Plymouth.	5.51	1959-71	3-30-71	11.3	200
04086400	Milwaukee River tributary near Fredonia, Wis.	SE 1/4 sec.1, T.11 N., R.21 E., at culvert on country road, 2.3 miles southeast of Fredonia.	.84	1962-71	4-12-71	12.33	88
*04087050	Little Menomonee River near Freistadt, Wis.	On common boundary of secs.29 and 32, T.9 N., R.21 E., at bridge on Donges Bay Road, 2 miles south of Freistadt.	7.96	1958-71	3-28-71	12.22	250
04087100	Honey Creek at Milwaukee, Wis.	SE 1/4 sec.15, T.6 N., R.21 E., 400 ft upstream from bridge on S. 68th Street, and 6 miles southwest from mouth of Milwaukee River in Milwaukee.	3.34	1959-71	2-19-71	18.49	150
*04087200	Oak Creek near South Milwaukee, Wis.	On common boundary of secs.21 and 22, T.5 N., R.22 E., at bridge on west Nicholson Road, 3 miles southwest of South Milwaukee.	13.9	1958-71	2-19-71	15.8	210
04087230	West Branch Root River Canal tributary near North Cape, Wis.	SE 1/4 sec.33, T.4 N., R.21 E., at culvert on County Trunk U, 3 miles southeast of North Cape.	3.92	1962-71	2-19-71	11.8	100
*04087250	Pike Creek near Kenosha, Wis.	W 1/2 sec.27, T.2 N., R.22 E., at box culvert on State Highway 43, 3 miles northwest of Kenosha.	7.25	1960-71	2-19-71	14.89	85
		St. Croix River Basin					
*05333100	Little Frog Creek near Minong, Wis.	NW 1/4 sec.29, T.42 N., R.11 W., at culvert on country road, 2 1/2 miles east of Minong.	13.0	1961-71	10- 8-70	15.38	318
05334100	Sawyer Creek near Shell Lake, Wis.	SE 1/4 sec.13, T.38 N., R.13 W., at box culvert on U.S. Highway 63, 2 miles north of Shell Lake.	1.04	1960-71	4-10-71	12.17	68

* Also a low-flow partial-record station.
f Backwater from ice.

Annual maximum discharge at crest-stage partial-record stations

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Dis-charge (cfs)
		St. Croix River Basin--Continued					
*05335380	Bashaw Brook near Shell Lake, Wis.	SW 1/4 sec.8, T.38 N., R.14 W., at twin box culvert on country road, 10.5 miles northwest of Shell Lake.	24.9	1959-65 1966≠ 1967-71	4-10-71	12.91	130
*05340300	Trade River near Frederic, Wis.	SW 1/4 sec.4, T.36 N., R.17 W., at box culvert on State Highways 35 and 48, 2.5 miles southwest of Frederic.	6.34	1958-71	4-10-71	11.8	130
05341700	Willow River tributary near New Richmond, Wis.	NW 1/4 sec.17, T.30 N., R.17 W., at twin box culvert on County Trunk GG, 3.6 miles southeast of New Richmond.	1.40	1959-71	8-18-71	12.86	100
05341900	Kinnickinnic River tributary at River Falls, Wis.	NE 1/4 sec.14, T.27 N., R.19 W., at bridge on County Trunk FF, 1.6 miles southwest of River Falls.	7.26	1959-71	8-18-71	11.56	380
		Trimbelle Creek Basin					
*05346600	Little Trimbelle Creek near Bay City, Wis.	S 1/2 sec.21, T.25 N., R.18 W., at bridge on County Trunk K, 7 miles northwest of Bay City.	19.9	1961-71	1971	b	<220
		Chippewa River Basin					
05356200	Kenyon Creek near Radisson, Wis.	NW 1/4 sec.22, T.38 N., R.6 W., at bridge on State Highway 27, 5 miles east of Radisson.	a7.5	1960-71	4- 8-71	12.2	242
05357360	Bear River near Powell, Wis.	NE 1/4 sec.32, T.42 N., R.4 E., at bridge on State Highway 182, 3 miles west of Powell.	118	1971	4-12-71	12.75	700
05357390	Weber Creek near Mercer, Wis.	SE 1/4 sec.21, T.43 N., R.3 E., at culvert on U.S. Highway 51, 3.7 miles northeast of Mercer.	5.86	1970-71	5-30-70 4-11-71	12.48 11.86	g234 134
05358100	Smith Creek near Park Falls, Wis.	NE 1/4 sec.15, T.40 N., R.1 W., at culvert on State Highway 13, 1 1/2 miles northeast of Park Falls.	9.11	1970-71	5-30-70 4-12-71	13.68 12.9	g270 200
05359200	South Fork Flambeau River tributary near Park Falls, Wis.	SW 1/4 sec.15, T.40 N., R.1 E., at culvert on State Highway 182, 5.1 miles east of Park Falls.	.86	1960-71	4-11-71	10.3	22
*05359600	Price Creek near Phillips, Wis.	SW 1/4 sec.31, T.38 N., R.2 W., at culvert on County Trunk W, 13 miles west of Phillips.	14.7	1958-65 1966≠ 1967-71	4-12-71	12.92	183
05360200	Flambeau River tributary at Ladysmith, Wis.	SW 1/4 sec.27, T.35 N., R.6 W., at culvert on State Highway 27, 1 mile north of Ladysmith.	a0.8	1960-71	4- 8-71	12.2	35
*05361400	Hay Creek near Prentice, Wis.	SE 1/4 sec.4, T.35 N., R.1 E., at culvert on U.S. Highway 8, 3.5 miles west of Prentice.	21.9	1961-71	4-11-71	14.4	715
05361420	Douglas Creek near Prentice, Wis.	NE 1/4 sec.17, T.35 N., R.2 E., at culvert on County Trunk Highway C, 2.3 miles southeast from intersection with State Highway 13 in Prentice.	24.6	1970-71	4-11-71	15.3	1,000
05361600	North Fork Jump River near Phillips, Wis.	SW 1/4 sec.5, T.36 N., R.1 E., at culvert on State Highway 13, 4 miles south of Phillips.	10.4	1970-71	4-11-71	12.14	157

* Also a low-flow partial-record station.
≠ Operated as a continuous-record gaging station.
≠ Discharge not determined.
a Approximately.
b Peak did not reach bottom of the gage.
g Not previously published.

Annual maximum discharge at crest-stage partial-record stations

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Chippewa River Basin--Continued					
*05364000	Yellow River at Cadott, Wis.	NE 1/4 sec.31, T.29 N., R.6 W., at bridge on State Highway 27, in Cadott.	351	1943-61≠ 1962-71	4-21-70 4-11-71	h9.53 10.36	2,500 3,900
05364100	Seth Creek near Cadott, Wis.	SW 1/4 sec.17, T.29 N., R.6 W., at culvert on State Highway 27, 3.1 miles north of Cadott.	3.04	1962-71	10-27-70	12.1	105
05364500	Duncan Creek at Bloomer, Wis.	Sec.8, T.30 N., R.9 W., 1/4 mile below Bloomer Dam at Bloomer.	49.2	1945-51≠ 1958-71	4- 1-71	5.2	460
*05365700	Goggle-eye Creek near Thorp, Wis.	West boundary sec.19, T.29 N., R.3 W., at culvert on State Highway 73, 1.3 miles north of Thorp.	6.70	1958-71	4- 1-71	13.86	580
*05366500	Eau Claire River near Fall Creek, Wis.	NW 1/4 sec.19, T.27 N., R.7 W., 500 ft east of County Trunk K, 3 1/4 miles north of Fall Creek.	758	1943-55≠ 1958-71	4- 1-71	10.7	7,650
05367030	Willow Creek near Eau Claire, Wis.	On common boundary of secs.14 and 15, T.26 N., R.9 W., at box culvert on State Highway 93, 4 miles south of Eau Claire.	4.38	1958-71	4- 7-71	11.48	150
*05367480	East Branch Pine Creek tributary near Dallas, Wis.	SW 1/4 sec.1, T.32 N., R.12 W., at culvert on County Trunk O, 1 1/2 miles north of Dallas.	3.85	1960-71	4- 8-71	12.05	108
05367500	Red Cedar River near Colfax, Wis.	SW 1/4 sec.22, T.30 N., R.11 W., 3.2 miles below Trout Creek and 4.7 miles north of Colfax.	a1,110	1914-61≠ 1962-71	4-11-71	b	4,500
05367700	Lightning Creek at Almena, Wis.	NW 1/4 sec.19, T.34 N., R.13 W., at bridge on County Trunk P, in Almena.	19.8	1958-71	8-18-71	11.88	1,000
05369800	Eau Galle River tributary near Hersey, Wis.	SW 1/4 sec.5, T.28 N., R.15 W., at box culvert on Interstate Highway 94, 2 miles southwest of Hersey.	.65	1960-71	4- 5-71	11.2	105
05370600	Arkansaw Creek tributary near Arkansaw, Wis.	SW 1/4 sec.14, T.25 N., R.14 W., at box culvert on U.S. Highway 10, 1 1/4 miles northwest of Arkansaw.	2.56	1959-71	4- 1-71	11.87	155
*05370900	Spring Creek near Durand, Wis.	S 1/2 sec.9, T.24 N., R.13 W., at bridge on country road, 4 miles south of Chippewa River bridge in Durand.	6.49	1962-71	10-26-70	10.08	10
		By Golly Creek Basin					
05371300	By Golly Creek near Nelson, Wis.	SW 1/4 sec.28, T.23 N., R.13 W., at culvert on County Trunk D, 3 miles northeast of Nelson.	.28	1962-71	10-29-70	9.5	5.0
		Buffalo River Basin					
05371800	Buffalo River tributary near Osseo, Wis.	S 1/2 sec.3, T.24 N., R.6 W., at culvert on U.S. Highway 10, 6 1/2 miles east of Osseo.	1.44	1960-71	4- 1-71	11.0	80
		Waumandee Creek Basin					
*05378200	Eagle Creek near Fountain City, Wis.	SW 1/4 sec.33, T.20 N., R.11 W., at bridge on County Trunk G, 2 1/2 miles north of Fountain City.	26.8	1961-71	7-12-71	11.13	250

* Also a low-flow partial-record station.
≠ Operated as a continous-record gaging station.
a Approximately.
b Peak did not reach bottom of the gage.
h Revised.

Annual maximum discharge at crest-stage partial-record stations

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
Black River Basin							
05380800	Black River tributary near Whittlesey, Wis.	SW 1/4 sec.35, T.32 N., R.1 E., at bridge on State Highway 13, 1.1 miles south of Whittlesey.	2.12	1960-71	4-10-71	12.07	170
*05380900	Poplar River near Owen, Wis.	NW 1/4 sec.25, T.28 N., R.2 W., at bridge on County Trunk N, 4 1/4 miles south of Owen.	157	1958-65 1966≠ 1967-71	4- 9-71	16.95	6,200
*05380970	Cawley Creek near Neillsville, Wis.	SW 1/4 sec.25, T.25 N., R.2 W., at bridge on State Highway 73, 3.7 miles north of Neillsville.	38.6	1961-71	4- 6-71	15.49	1,790
*05382200	French Creek near Ettrick, Wis.	NE 1/4 sec.27, T.20 N., R.8 W., at bridge on County Trunk D and T, 2 1/2 miles west of Ettrick.	14.3	1960-71	1971	b	<200
La Crosse River Basin							
05382300	Beaver Creek tributary near Sparta, Wis.	NW 1/4 sec.11, T.17 N., R.4 W., at box culvert on State Highways 27 and 71, 1.9 miles north of Sparta.	1.72	1959-71	4- 1-71	12.85	200
*05382500	Little La Crosse River near Leon, Wis.	NE 1/4 sec.3, T.16 N., R.4 W., 4 miles upstream from mouth and 1.5 miles northwest of Leon.	77.1	1934-61≠ 1962-71	4- 1-71	2.51	210
Mormon Creek Basin							
*05386300	Mormon Creek near La Crosse, Wis.	NE 1/4 sec.19, T.15 N., R.6 W., at bridge on country road, 6 miles southeast of La Crosse.	25.5	1961-71	1971	b	<230
Bad Axe River Basin							
*05387100	North Fork Bad Axe River near Genoa, Wis.	SW 1/4 sec.36, T.13 N., R.7 W., at bridge on State Highway 56, 4.1 miles southeast of Genoa.	68.8	1959-65 1966≠ 1967-71	7-27-71	11.9	560
Du Charme Creek Basin							
05388460	Du Charme Creek at Eastman, Wis.	NE 1/4 sec.13, T.8 N., R.6 W., at culvert on County Trunk D in Eastman.	.30	1961-71	3- 1-71	11.16	80
Wisconsin River Basin							
*05390140	Muskrat Creek at Conover, Wis.	SW 1/4 sec.4, T.41 N., R.10 E., at corrugated culvert on U.S. Highway 45, 0.1 mile north of Conover.	9.95	1970-71	4-11-71	13.26	ƒ
05390240	Fourmile Creek near Three Lakes, Wis.	NE 1/4 sec.26, T.39 N., R.11 E., at 2-barrel corrugated culvert on blacktop forest road, 5.5 miles northeast of Three Lakes.	11.6	1970-71	4-20-70 4-13-71	10.51 11.52	g32 73
05391260	Gudegast Creek near Starks, Wis.	NW 1/4 sec.16, T.37 N., R.10 E., at corrugated culvert on country road, 3 miles northwest of Starks.	13.0	1970-71	4-13-71	12.08	71
05391950	Squaw Creek near Harrison, Wis.	SW 1/4 sec.3, T.35 N., R.8 E., at culvert on County Trunk Highway A, 5 miles northeast of Harrison.	3.19	1970-71	5-31-70 4-13-71	10.47 10.78	g15 ƒ

* Also a low-flow partial-record station.
≠ Operated as a continuous-record gaging station.
ƒ Discharge not determined.
b Peak did not reach bottom of the gage.
g Not previously published.

Annual maximum discharge at crest-stage partial-record stations

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Dis-charge (cfs)
		Wisconsin River Basin--Continued					
*05392150	Mishonagon Creek near Woodruff, Wis.	NE 1/4 sec.32, T.40 N., R.6 E., at twin culvert on State Highway 47, 3 miles northwest of Woodruff.	11.9	1958-71	4-12-71	10.2	62
*05392350	Bearskin Creek near Harshaw, Wis.	SW 1/4 sec.36, T.37 N., R.6 E., at culvert on County Trunk K, 2 1/8 miles southwest of Harshaw.	27.8	1958-65 1966≠ 1967-71	7-18-71	9.61	75
05393620	Skanawan Creek near Tomahawk, Wis.	SW 1/4 sec.13, T.34 N., R.6 E., at culvert on State Highway 107, 3 1/2 miles southeast of Tomahawk.	6.59	1970-71	4-13-71	11.6	70
05393640	Little Pine Creek near Irma, Wis.	NW 1/4 sec.31, T.34 N., R.7 E., at box culvert on U.S. Highway 51, 3 miles north of Irma.	22.9	1970-71	5-31-70 4-13-71	12.06 13.12	g75 ∤
*05394000	New Wood River near Merrill, Wis.	E 1/2 sec.15, T.32 N., R.5 E., at bridge on County Trunk E, 9.5 miles northwest of Merrill.	a83.1	1953-61≠ 1962-71	4-13-71	6.05	2,170
*05394200	Devil Creek near Merrill, Wis.	N 1/2 sec.30, T.31 N., R.6 E., at culvert on County Trunk F, 5.8 miles southwest of Merrill.	10.1	1961-71	4- 9-71	f14.24	320
05395020	Lloyd Creek near Doering, Wis.	SE 1/4 sec.21, T.32 N., R.9 E., at bridge on County Trunk C, 4.5 miles east of Doering.	8.54	1970-71	4- 9-71	f14.3	∤
05395100	Trappe River tributary near Merrill, Wis.	SW 1/4 sec.28, T.31 N., R.8 E., at culvert on County Trunk P, 9 1/2 miles southeast of Merrill.	a2.2	1959-71	4-13-71	12.95	145
05396100	Pet Brook tributary near Edgar, Wis.	SE 1/4 sec.31, T.29 N., R.5 E., at culvert on State Highway 29, 1.5 miles northeast of Edgar.	6.69	1962-71	4- 9-71	15.82	980
05397600	Big Sandy Creek near Wausau, Wis.	SE 1/4 sec.31, T.30 N., R.9 E., at bridge on State Highway 52, 10 miles northeast of Wausau.	a9.9	1959-71	4- 9-71	13.4	950
05399200	Randall Creek tributary near Abbotsford, Wis.	South boundary of sec.36, T.29 N., R.2 E., at concrete culvert, on State Highway 29, 5.8 miles east of Abbotsford.	.56	1959-71	4- 9-71	f14.14	140
05401800	Yellow River tributary near Pittsville, Wis.	On common boundary of secs.11 and 14, T.23 N., R.3 E., at bridge on County Trunk C, 2 miles north of Pittsville.	7.27	1959-71	4- 8-71	11.84	240
*05403520	Webster Creek at New Lisbon, Wis.	NE 1/4 sec.19, T.16 N., R.3 E., at bridge on State Highway 80, 1.2 miles south of New Lisbon.	11.5	1961-71	5-19-71	12.76	135
*05403550	One Mile Creek near Mauston, Wis.	SE 1/4 sec.24, T.15 N., R.3 E., at bridge on State Highway 58, 2.4 miles south of Mauston.	30.4	1958-71	3-14-71	13.8	360
05403610	Wisconsin River tributary at Wisconsin Dells, Wis.	NE 1/4 sec.3, T.13 N., R.6 E., at culvert on State Highway 13, 0.8 mile north of Wisconsin Dells.	1.16	1962-71	5-19-71	10.28	13
*05403700	Dell Creek near Lake Delton, Wis.	NW 1/4 sec.2, T.12 N., R.5 E., at bridge on town road, 1/4 mile north of State Highway 23, and 5 miles southwest of Lake Delton.	44.9	1957-65≠ 1966-71	5-19-71	5.78	250
*05404200	Narrows Creek at Loganville, Wis.	SE 1/4 sec.8, T.11 N., R.4 E., at bridge on State Highways 23 and 154, and 1/4 mile north of Loganville.	40.0	1958-65 1966≠ 1967-71	3-15-71	13.45	970

* Also a low-flow partial-record station.
≠ Operated as a continuous-record gaging station.
∤ Discharge not determined.
a Approximately.
f Backwater from ice.
g Not previously published.

Annual maximum discharge at crest-stage partial-record stations

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Dis-charge (cfs)
		Wisconsin River Basin--Continued					
*05405600	Rowan Creek at Poynette, Wis.	S 1/2 sec.35, T.11 N., R.9 E., at bridge on U.S. Highway 51, in Poynette.	10.1	1961-71	3-31-71	11.67	150
05406800	Rocky Branch near Richland Center, Wis.	E 1/2 sec.29, T.10 N., R.1 E., at culvert on State Highway 80, 1 1/2 miles south of Richland Center.	1.71	1960-71	3-14-71	11.04	60
*05407100	Richland Creek near Plugtown, Wis.	NW 1/4 sec.9, T.8 N., R.3 W., at bridge on U.S. Highway 61, 2 miles south of Plugtown.	19.2	1958-71	7-27-71	11.16	150
*05407200	Crooked Creek near Boscobel, Wis.	SE 1/4 sec.2, T.7 N., R.3 W., at bridge on U.S. Highway 61, 1.6 miles south of Boscobel.	13.1	1959-71	5-19-71	10.7	160
*05407400	Morris Creek tributary near Norwalk, Wis.	NW 1/4 sec.21, T.16 N., R.2 W., at bridge on County Trunk T, 2 miles north of Norwalk.	4.67	1960-71	9- 9-71	11.43	375
		Grant River Basin					
*05413400	Pigeon Creek near Lancaster, Wis.	SW 1/4 sec.15, T.4 N., R.3 W., at culvert on country road, 2 miles south of Lancaster.	6.81	1960-65 1966≠ 1967-71	9-10-71	11.5	260
		Platte River Basin					
*05414200	Bear Branch near Platteville, Wis.	NW 1/4 sec.4, T.3 N., R.1 W., at box culvert on State Highway 81, 2.3 miles northwest of Platteville.	2.80	1958-71	9-10-71	11.0	150
		Galena River Basin					
*05414900	Pats Creek near Elk Grove, Wis.	SW 1/4 sec.4, T.2 N., R.1 E., at bridge on State Highway 81, 7 miles southeast of Platteville.	8.49	1960-71	3-22-71	14.37	620
		Rock River Basin					
05423000	West Branch Rock River near Waupun, Wis.	SW 1/4 sec.24, T.14 N., R.15 E., on right bank 700 feet downstream from bridge on U.S. Highway 151, 4.5 miles northeast of Waupun.	41.4	1949-70≠ 1971	3-31-71	4.71	345
*05423300	South Branch Rock River tributary near Waupun, Wis.	S 1/2 sec.22, T.14 N., R.14 E., at concrete culvert on country road, 4 1/2 miles northwest of Waupun.	11.9	1959-71	3-31-71	f14.15	375
*05423800	East Branch Rock River tributary near Slinger, Wis.	S 1/2 sec.26, T.11 N., R.18 E., at culvert on U.S. Highway 41, 4 miles northwest of Slinger.	3.04	1960-71	4-12-71	11.27	105
05424300	Rock River tributary near Watertown, Wis.	NE 1/4 sec.18, T.8 N., R.16 E., at concrete culvert on old U.S. Highway 16, 5 miles east of Watertown.	4.58	1959-71	3-28-71	13.35	175
*05425700	Robbins Creek near Columbus, Wis.	SE 1/4 sec.11, T.10 N., R.12 E., at culvert on U.S. Highway 16, in Columbus.	8.54	1960-71	3-28-71	12.72	180

* Also a low-flow partial-record station.
≠ Operated as a continous-record gaging station.
f Backwater from ice.

Annual maximum discharge at crest-stage partial-record stations

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Rock River Basin--Continued					
05426100	Scuppernong Creek near Wales, Wis.	NE 1/4 sec.6, T.6 N., R.18 E., at culvert on U.S. Highway 18, 1.8 miles northwest of Wales.	8.28	1962-71	1971	b	<60
*05427200	Allen Creek near Fort Atkinson, Wis.	NE 1/4 sec.17, T.5 N., R.14 E., at box culvert on State Highway 26, 2.5 miles southwest of Fort Atkinson.	10.2	1958-71	3- 8-71	10.9	140
*05427800	Token Creek near Madison, Wis.	SW 1/4 sec.4, T.8 N., R.10 E., at culvert on U.S. Highway 51, 8 miles northeast of State Capitol in Madison.	24.2	1961-65 1966≠ 1967-71	8-14-71	9.99	45
*05431400	Little Turtle Creek at Allens Grove, Wis.	NE 1/4 sec.6, T.1 N., R.15 E., at bridge on country road, 0.2 mile south of Allens Grove.	41.8	1962-71	2-19-71	15.55	2,440
*05432300	Rock Branch near Mineral Point, Wis.	SE 1/4 sec.8, T.4 N., R.3 E., at box culvert on State Highway 23, 2 1/2 miles south of Mineral Point.	4.83	1959-71	3-27-71	11.28	150
*05433500	Yellowstone River near Blanchardville, Wis.	NE 1/4 sec.34, T.4 N., R.4 E., 0.6 mile upstream from bridge on County Trunk F, and 7 miles west-southwest of Blanchardville.	28.5	1954-65≠ 1966-71	3-27-71	4.15	220
05434200	Skinner Creek tributary near Monroe, Wis.	S 1/2 sec.14, T.2 N., R.7 E., at culvert on State Highway 69, 2.4 miles north of Monroe.	.48	1959-71	3-28-71	11.35	36
05435900	Sugar River tributary near Pine Bluff, Wis.	SE 1/4 sec.27, T.7 N., R.7 E., at culvert on County Trunk J, 1.1 miles southeast of Pine Bluff.	7.46	1961-71	3-14-71	12.00	110
*05436200	Gill Creek near Brooklyn, Wis.	NW 1/4 sec.16, T.4 N., R.9 E., at culvert on State Highway 92, 4.3 miles west of Brooklyn.	3.34	1961-71	8-14-71	11.5	35
*05437200	East Fork Raccoon Creek tributary near Beloit, Wis.	On common boundary of secs.30 and 31 T.1 N., R.12 E., at culvert on State Highway 81, 2.9 miles west of Beloit.	4.67	1958-71	2-19-71	12.08	140
		Illinois River Basin					
05544300	Mukwonago River tributary near Mukwonago, Wis.	S 1/2 sec.36, T.5 N., R.18 E., at culvert on State Highway 83, 1 1/2 miles southeast of Mukwonago.	1.32	1960-71	2-19-71	f11.13	30
05545100	Sugar Creek at Elkhorn, Wis.	SW 1/4 sec.29, T.3 N., R.17 E., at culvert on State Highway 11, 2 miles northeast of Elkhorn.	6.68	1962-71	2-19-71	f12.82	150
05545200	White River tributary near Burlington, Wis.	On common boundary of secs.27 and 34, T.3 N., R.18 E., at box culvert on State Highway 11, 4.5 miles west of Burlington.	2.42	1958-71	2-19-71	11.77	100
*05545300	White River near Burlington, Wis.	NW 1/4 sec.1, T.2 N., R.18 E., at bridge on State Highway 36, 2 1/4 miles southwest of Burlington.	97.5	1958-65 1966≠ 1967-71	2-19-71	12.42	1,140
*05548150	North Branch Nippersink Creek tributary near Genoa City, Wis.	E 1/2 sec.32, T.1 N., R.18 E., at bridge on County Trunk B, 3 miles west of Genoa City.	13.8	1962-71	2-19-71	12.57	315

* Also a low-flow partial-record station.
≠ Operated as a continous-record gaging station.
b Peak did not reach bottom of the gage.
f Backwater from ice.

Measurements at Miscellaneous Sites

Measurements of streamflow at points other than gaging stations or partial-record stations are given in the following table. Those that are measurements of base flow are designated by an asterisk (*).

Discharge measurements made at mescellaneous sites during water year 1971

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Streams tributary to Lake Superior						
Nemadji River	Lake Superior	SW 1/4 NW 1/4 SW 1/4 sec.34, T.48 N., R.14 W., Douglas County, at bridge on State Highway 35, 8.0 miles south of Superior.	385	1970	1- 4-71	*90.2
Bois Brule River	Do	SE 1/4 SE 1/4 sec.25, T.46 N., R.11 W., Douglas County, at bridge on County Trunk S, at Stone Bridge Campground.	27.6	1970	7-21-71 8-17-71	*24.8 *29.6
Do	Do	SW 1/4 SE 1/4 sec.22, T.49 N., R.10 W., Douglas County, at bridge on country road upstream from mouth and 10.5 miles north of Brule.	181	1970	7-21-71 8-17-71	*150 *158
North Fish Creek	Do	NW 1/4 SW 1/4 sec.2, T.47 N., R.5 W., Bayfield County, at U.S. Highway 2, 3.9 miles west of downtown Ashland.	88.1	1967 1969-70	1- 5-71	*71.2
Tyler Forks River	Bad River	NE 1/4 SE 1/4 sec.2, T.45 N., R.2 W., Ashland County, at bridge on State Highway 169, 7.2 miles northeast of Mellen.	69.4	1970	12-15-70	42.6
Marengo River	Do	NW 1/4 NW 1/4 sec.36, T.46 N., R.4 W., Ashland County, at State Highway 13, 0.2 mile north of Marengo.	101	1967 1969-70	1-18-71	*45.8
Montreal River	Lake Superior	SW 1/4 SE 1/4 sec.8, T.45 N., R.3 E., Iron County, at bridge on County Trunk C, 4.7 miles south of Hurley.	51.2	1970	1- 5-71	21.0
West Fork Montreal River	Montreal River	SE 1/4 NW 1/4 SE 1/4 sec.21, T.45 N., R.2 E., Iron County, at bridge on country road, just upstream from Gile Flowage, 4.8 miles south of Montreal.	38.6	1970	1- 6-71	29.0
South Branch Presque Isle River	West Branch Presque Isle River	SE 1/4 SE 1/4 sec.33, T.44 N., R.6 E., Vilas County, at bridge on country road, 0.8 mile west of Presque Isle.	15.8	1970	1-28-71	*13.8
Streams tributary to Lake Michigan						
North Branch Pike River	Pike River	SW 1/4 NW 1/4 sec.33, T.37 N., R.18 E., Marinette County, at culvert on U.S. Highway 8, 4.9 miles east of Goodman.	37.2	1969	8- 4-71 9-14-71	*21.6 *24.7
Do	Do	NW 1/4 NE 1/4 sec.29, T.36 N., R.20 E., Marinette County, at bridge on country road, 4.8 miles north of Amberg.	115	1969	8- 4-71 9-14-71	*70.7 *63.3
Portage Canal	Fox River	NW 1/4 sec.8, T.12 N., R.9 E., Columbia County, at bridge on U.S. Highway 51, at Portage.	-	1966 1969-70	9- 2-71	*1.48
Neenah Creek	Do	SW 1/4 SE 1/4 sec.31, T.14 N., R.9 E., Marquette County, at U.S. Highway 51, 4.9 miles south of Endeavor.	134	1965-66	10-13-70	*87.7

Discharge measurements made at miscellaneous sites during water year 1971

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Streams tributary to Lake Michigan--Continued						
Neenah Creek	Fox River	SW 1/4 SE 1/4 sec.4, T.13 N., R.9 E., Columbia County, at bridge on County Trunk CM, 6.1 miles south of Endeavor.	-	-	10-13-70	*89.7
Fox River	Lake Michigan	SW 1/4 NW 1/4 sec.3, T.13 N., R.9 E., Columbia County, at bridge on County Trunk CM, 5.9 miles south of Endeavor.	-	-	10-19-70	*96.4
Do	Do	NW 1/4 NW 1/4 sec.16, T.15 N., R.10 E., Marquette County, at bridge on State Highway 22, in Montello.	-	-	10-19-70	*128
Lawrence Creek	Montello River	NE 1/4 SE 1/4 sec.36, T.17 N., R.7 E., Adams-Marquette County line, at bridge on country road, 2.8 miles northwest of Lawrence.	-	-	7-19-71	*10.7
Mecan River	Fox River	NW 1/4 NW 1/4 sec.8, T.18 N., R.9 E., Waushara County, at bridge on County Trunk GG, 2.3 miles northwest of Richford.	-	1970	8-14-71 8-31-71	13.8 *10.6
Do	Do	NE 1/4 NW 1/4 sec.21, T.18 N., R.9 E., Waushara County, at culvert on County Trunk B, at Richford.	-	1970	8-31-71 9-21-71	*20.3 *18.3
Do	Do	NE 1/4 NE 1/4 sec.21, T.18 N., R.9 E., Waushara County, at bridge on Cumberland Road, 0.5 mile east of Richford.	-	-	7-19-71 9-21-71	*27.0 *22.6
Silver Creek	Do	NE 1/4 NE 1/4 sec.20, T.16 N., R.14 E., Fond du Lac County, at culvert on County Trunk FF, in Ripon.	-	-	7-28-71	*4.2
Wolf River	Do	NW 1/4 NE 1/4 sec.16, T.33 N., R.12 E., Langlade County, at bridge on County Trunk A, 1.5 miles southeast of Pearson.	-	-	8- 3-71 9-15-71	128 136
Do	Do	SE 1/4 SW 1/4 sec.27, T.33 N., R.13 E., Langlade County, at bridge on State Highway 52, at Lily.	-	-	8- 3-71 9-15-71	136 182
Rabe Creek	Little West Branch Wolf River	NW 1/4 SW 1/4 sec.27, T.31 N., R.12 E., Langlade County, at culvert on country road, 2.0 miles south of Polar.	-	-	9-23-71	*3.9
Mayking Creek	Red River	SW 1/4 SW 1/4 sec.2, T.30 N., R.12 E., Langlade County, at culvert on County Trunk S, 3.5 miles north of Phlox.	-	-	9-24-71	*15.3
St. Croix River Basin						
Loon Creek	Yellow River	SW 1/4 NW 1/4 sec.1, T.40 N., R.15 W., Burnett County, 300 feet downstream from dam at outlet Loon Lake, and 9.7 miles east of Danbury.	-	-	7- 9-70	*[a]0.73
Do	Do	SW 1/4 NE 1/4 sec.2, T.40 N., R.15 W., Burnett County, 0.6 mile downstream from dam at outlet of Loon Lake, and 9.1 miles east of Danbury.	-	-	7- 9-70	*[a]1.42

[a] Published in Hydrology of Loon Creek, Wisconsin, U.S. Geological Survey, Administrative Report, January 21, 1971.

Discharge measurements made at miscellaneous sites during water year 1971

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
St. Croix River Basin--Continued						
Loon Creek	Yellow River	SE 1/4 SE 1/4 sec.3, T.40 N., R.15 W., Burnett County, at Loon Lake Road, and 8.6 miles east of Danbury.	-	-	5-25-70 6- 3-70 7- 9-70 8-10-70 9-11-70 10- 9-70 11- 6-70	*a4.67 *a4.31 *a2.35 *a2.31 *a2.69 a6.85 *a3.23
Do	Do	NW 1/4 SE 1/4 sec.3, T.40 N., R.15 W., Burnett County, 0.6 mile downstream from Loon Lake Road, and 8.2 miles east of Danbury.	-	-	7- 9-70	*a3.54
Spring Creek	Loon Creek	SE 1/4 SW 1/4 sec.10, T.40 N., R.15 W., Burnett County, at Loon Lake Road, and 8.4 miles southeast of Danbury.	-	-	5-25-70 6- 3-70 7- 9-70 8-10-70 9-11-70 10- 9-70 11- 6-70	*a4.51 *a2.71 *a1.90 *a2.08 *a2.36 a5.30 *a2.56
Do	Do	SE 1/4 NW 1/4 sec.10, T.40 N., R.15 W., Burnett County, 125 feet upstream from inlet to Culbertson Lake, and 8.3 miles southeast of Danbury.	-	-	7- 9-70	*a2.08
Do	Do	NW 1/4 NW 1/4 sec.10, T.40 N., R.15 W., Burnett County, at outlet Culbertson Lake, and 7.9 miles east of Danbury.	-	-	8- 9-70	*a3.11
Do	Do	SW 1/4 SW 1/4 sec.35, T.41 N., R.15 W., Burnett County, 300 feet upstream from mouth, and 7.8 miles east of Danbury.	-	-	7- 9-70	*a3.92
Loon Creek	Yellow River	SE 1/4 NE 1/4 sec.34, T.41 N., R.15 W., Burnett County, 0.3 mile upstream from inlet to Eagle Lake, and 7.3 miles east of Danbury.	-	-	7- 9-70 9-11-70	*a7.02 *a7.27
Loon Creek tributary	Loon Creek	SW 1/4 SW 1/4 sec.34, T.41 N., R.15 W., Burnett County, at country road culvert 0.2 mile upstream from inlet to Eagle Lake, and 6.8 miles east of Danbury.	-	-	7- 9-70	*a0.09
Loon Creek	Yellow River	SW 1/4 NW 1/4 sec.34, T.41 N., R.15 W., Burnett County, at country road bridge 0.2 mile downstream from outlet of Eagle Lake, and 6.5 miles east of Danbury.	-	-	7- 9-70 8-10-70 9-11-70	*a15.3 *a13.1 *a9.37
Willow River	St. Croix River	NW 1/4 SW 1/4 sec.2, T.29 N., R.19 W., St. Croix County, at bridge on County Trunk I, at Burkhardt.	-	-	4- 1-71	1,560
Chippewa River Basin						
Yellow River	Chippewa River	NW 1/4 SW 1/4 sec.20, T.30 N., R.5 W., Chippewa County, at bridge on County Trunk S, 7.9 miles north of Boyd.	-	-	4- 8-71	1,690
Eau Claire River	Do	Sec.12, T.26 N., R.6 W., Eau Claire County, at Trouble Water Bridge, 5.6 miles northeast of Augusta and 6.0 miles downstream from South Fork.	506	-	4- 9-71	6,210
Do	Do	NW 1/4 sec.8, T.26 N., R.6 W., Eau Claire County, at bridge on State Highway 27, 0.3 mile downstream from dam at outlet of Lake Eau Claire, and 5.4 miles north of Augusta.	-	1969	4-10-71	7,590

a Published in Hydrology of Loon Creek, Wisconsin, U.S. Geological Survey, Administrative Report, January 21, 1971.

Discharge measurements made at miscellaneous sites during water year 1971

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
		Chippewa River Basin--Continued				
Eau Claire River	Chippewa River	NW 1/4 sec.19, T.27 N., R.7 W., Eau Claire County, 500 feet east of County Trunk K, 3 1/4 miles north of Fall Creek.	758	-	4-10-71	6,850
Chippewa River	Mississippi River	NE 1/4 sec.25, T.27 N., R.10 W., Eau Claire County, at bridge on State Highways 37 and 85 at Eau Claire, 1.2 miles upstream from Lowes Creek and 2.8 miles downstream from Eau Claire River.	6,630	1902-09,≠ 1944-54,≠ 1966-69	4-12-71	50,800
Red Cedar River	Chippewa River	NW 1/4 NW 1/4 sec.26, T.28 N., R.13 W., Dunn County, on right bank at Menomonie, 900 feet downstream from powerplant of Northern States Power Co., and 1,000 feet downstream from Wilson Creek.	1,760	-	4-14-71	4,500
		La Crosse River Basin				
La Crosse River	Mississippi River	NW 1/4 SW 1/4 sec.15, T.16 N., R.7 W., La Crosse County, at bridge on U.S. Highway 16, 3.9 miles northeast of post office in La Crosse.	-	-	4- 1-71	843
		Wisconsin River Basin				
Rib River	Wisconsin River	NW 1/4 sec.27, T.29 N., R.5 E., Marathon County, at bridge on County Trunk S, in Rib Falls.	309	-	4-10-71	6,610
Campbell Creek	Do	SW 1/4 NE 1/4 sec.27, T.16 N., R.6 E., Adams County, at culvert on County Trunk A, 2.0 miles east of Easton.	-	-	7-19-71	*2.60
South Branch Baraboo River	Baraboo River	NE 1/4 NE 1/4 sec.35, T.14 N., R.1 E., Vernon County, at bridge on County Trunk FF, at Hillsboro.	37.9	-	12- 8-70	*10.6
Hills Creek	South Branch Baraboo River	SE 1/4 SE 1/4 sec.24, T.14 N., R.1 E., Vernon County, at bridge on State Highways 33, 80, and 82, 1.8 miles northeast of Hillsboro.	15.7	-	12- 8-70	*4.91
Crossman Creek	Baraboo River	NW 1/4 NW 1/4 sec.8, T.13 N., R.3 E., Sauk County, at bridge on State Highway 33, 3.4 miles northwest of La Valle.	19.3	-	12- 8-70	*2.35
Little Baraboo River	Do	SE 1/4 NE 1/4 sec.33, T.13 N., R.3 E., Sauk County, at bridge on State Highway 58, 1.4 miles south of La Valle.	34.6	-	12- 8-70	*16.8
Baraboo River tributary	Do	SW 1/4 SE 1/4 sec.24, T.13 N., R.3 E., Sauk County, at bridge on County Trunk V, 2.4 miles east of La Valle.	1.4	1970	12- 8-70	*0.255
Hay Creek	Do	SE 1/4 SW 1/4 sec.34, T.13 N., R.4 E., Sauk County, at bridge on private road, 1.6 miles north of Reedsburg.	8.0	-	12- 8-70	*1.94
Baraboo River	Wisconsin River	SE 1/4 SE 1/4 sec.15, T.12 N., R.4 E., Sauk County, at bridge on town road, 1.0 mile south of Reedsburg.	-	-	4- 1-71	867

≠ Operated as a continuous-record gaging station.

Discharge measurements made at miscellaneous sites during water year 1971

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
		Wisconsin River Basin--Continued				
Copper Creek	Baraboo River	NE 1/4 SW 1/4 sec.18, T.12 N., R.5 E., Sauk County, at bridge on country road, 2.8 miles southeast of Reedsburg.	8.0	-	12- 8-70	*3.35
Narrows Creek	Do	SW 1/4 NW 1/4 sec.32, T.12 N., R.5 E., Sauk County, at bridge on State Highway 154, and 0.9 mile west of Rock Springs.	66.1	-	12- 8-70	*15.8
Baraboo River	Wisconsin River	NE 1/4 SW 1/4 sec.2, T.11 N., R.5 E., Sauk County, on highway bridge at west edge of North Freedom.	486	1965-67	4- 1-71	1,100
Wisconsin River tributary	Do	SE 1/4 SE 1/4 NW 1/4 sec.23, T.10 N., R.6 E., Sauk County, on grounds of Badger Ordinance Works, and 9.9 miles south of Baraboo.	-	-	10- 9-70	*50.5
Black Earth Creek	Blue Mounds Creek	NW 1/4 NE 1/4 sec.16, T.8 N., R.6 E., Dane County, just upstream of mouth of Halfway Prairie Creek, at Mazomanie.	71.6	-	3-15-71	454
Trout Creek	Mill Creek	SE 1/4 SW 1/4 sec.30, T.7 N., R.5 E., Iowa County, at bridge on private road just downstream from Arneson Creek, and 3.5 miles northwest of Barneveld.	8.31	-	9-23-71	*4.69
Do	Do	NW 1/4 SW 1/4 sec.19, T.7 N., R.5 E., Iowa County, at culvert on County Trunk T, 4.5 miles northwest of Barneveld.	12.1	-	9-30-71	*10.9
Do	Do	SW 1/4 NE 1/4 sec.24, T.7 N., R.4 E., Iowa County, at bridge on County Trunk T, 4.8 miles north of Ridgeway.	13.5	-	7-22-71 8-24-71 9-23-71	*8.10 *7.54 *11.4
Pine River	Wisconsin River	SE 1/4 SE 1/4 sec.27, T.10 N., R.1 E., Richland County, at bridge on County Trunk O, 2.5 miles southeast of Richland Center.	198	1970	3-15-71	830
Kickapoo River	Do	SE 1/4 NW 1/4 sec.2, T.14 N., R.2 W., Vernon County, at bridge on State Highway 33, at Ontario.	116	1970	4- 1-71	369
Do	Do	NE 1/4 NE 1/4 sec.24, T.12 N., R.3 W., Vernon County, at bridge on State Highway 56 at Viola.	340	1961-62 1968	4- 1-71	1,120
Do	Do	NW 1/4 SW 1/4 sec.8, T.11 N., R.3 W., Vernon County, at bridge on U.S. Highway 14, 5.0 miles upstream from mouth of Reeds Creek, at Readstown.	485	1952 1960-62 1965 1968	4- 2-71	1,270
Do	Do	SE 1/4 sec.30, T.11 N., R.3 W., Crawford County, on bridge on State Highway 131 at Soldiers Grove, 450 feet downstream from Baker Creek.	530	1939≠ 1960 1962 1965 1967	4- 2-71	1,200
Wisconsin River	Mississippi River	NW 1/4 NE 1/4 sec.14, T.6 N., R.6 W., Crawford County, at bridge on U.S. Highway 18, at Bridgeport.	11,700	1935-36 1938 1944-46 1950 1951 1952 1955 1960 1965-67 1970	4-28-71 5-31-71	14,000 14,900
		Rock River Basin				
Oconomowoc River	Rock River	SW 1/4 NE 1/4 sec.19, T.8 N., R.18 E., Waukesha County, on County Trunk K, 0.2 mile east of Stonebank.	-	1966 1968	3-25-71	106

≠ Operated as a continuous-record gaging station.

Series of base-flow discharge measurements were made in various areas of the State during the 1971 water year. These measurements were made as part of a comprehensive program now being carried on in cooperation with the University Extension, the University of Wisconsin Geological and Natural History Survey, to investigate the water resources of all major river basins within the State of Wisconsin or as part of a program in cooperation with the Wisconsin Department of Natural Resources, the object of which is to obtain information on the variability of base flow within small basins of about 100 square miles.

The measurements for each study are listed in order proceeding downstream, and each tributary is inserted in the order in which it enters the main stream. The data collected in these series of measurements were used in determining the base-flow yields of various parts of the basins. Drainage areas shown were determined from the most recent U.S. Geological Survey maps of the area. Water temperature and specific conductance measurements were obtained at the time the discharge measurements were made and are available upon request to the district office.

STREAMS TRIBUTARY TO LAKE MICHIGAN

Mecan River basin low-flow investigation

A series of base-flow discharge measurements was made in the Mecan River basin, tributary to the Fox River, during the period August 31-September 1. In the week prior to the measurements, weather records indicate 0.1 to 0.5 inch of precipitation in the area on August 24. Based on weather records and recorded streamflow data in the region, the discharge measurements are considered to represent low-range base flow.

Stream	Location	Drainage area (sq mi)	Measured Discharge		
			Date	Cfs	Cfsm
	Discharge measurements of Mecan River and tributaries				
Mecan River	NW 1/4 NW 1/4 sec.8, T.18 N., R.9 E., at bridge on County Trunk GG, 2.3 miles northwest of Richford.	-	≠8-31-71	10.6	-
Schmudlack Creek	SW 1/4 SE 1/4 sec.5, T.18 N., R.9 E., at culvert on Cottonville Avenue, 2.3 miles northwest of Richford.	-	8-31-71	1.10	-
Mecan River	NE 1/4 NW 1/4 sec.21, T.18 N., R.9 E., at culvert on County Trunk B, at Richford.	-	8-31-71	20.3	-
Do	NE 1/4 SW 1/4 sec.31, T.18 N., R.10 E., at culvert on County Trunks Y and JJ, 4.7 miles southeast of Richford.	-	8-31-71	39.9	-
Little Pine Creek	NW 1/4 NE 1/4 sec.19, T.18 N., R.10 E., at culvert on County Trunk Y, 4.1 miles east of Richford.	-	8-31-71	4.93	-
Little Pine Creek tributary	NW 1/4 NE 1/4 sec.19, T.18 N., R.10 E., at culvert on County Trunk Y, at mouth, 4.1 miles east of Richford.	-	8-31-71	1.94	-
Little Pine Creek	NE 1/4 SW 1/4 sec.32, T.18 N., R.10 E., at bridge on County Trunk JJ, 5.5 miles southeast of Richford.	-	8-31-71	8.52	-
Crystal Lake Outlet	NW 1/4 NE 1/4 sec.7, T.17 N., R.10 E., at culvert on private road, 5.7 miles southeast of Richford.	-	9- 1-71	2.83	-
Mecan River	NE 1/4 NE 1/4 sec.7, T.17 N., R.10 E., at bridge on 14th Avenue, 6.1 miles southeast of Richford.	-	≠8-31-71	53.4	-
Chaffee Creek	NW 1/4 NW 1/4 sec.1, T.17 N., R.8 E., at culvert on U.S. Highway 51, 3.7 miles south of Coloma.	-	≠9- 1-71	10.4	-
Do	NW 1/4 NW 1/4 sec.5, T.17 N., R.9 E., at bridge on County Trunk JJ, 3.3 miles southwest of Richford.	-	9- 1-71	15.4	-
Do	SW 1/4 SW 1/4 sec.3, T.17 N., R.9 E., at bridge on Dakota Road, 3.8 miles south of Richford.	-	9- 1-71	18.6	-
Wedde Creek	NE 1/4 SW 1/4 sec.29, T.18 N., R.9 E., at bridge on County Trunk JJ, 1.8 miles southwest of Richford.	-	9- 1-71	8.46	-
Do	NE 1/4 NE 1/4 sec.3, T.17 N., R.9 E., at bridge on Dakota Avenue, just upstream of confluence with Rogers Creek, and 3.1 miles southeast of Richford.	-	9- 1-71	11.0	-
Rogers Creek	NE 1/4 NE 1/4 sec.3, T.17 N., R.9 E., at bridge on Dakota Avenue, at mouth, and 3.1 miles southeast of Richford.	-	9- 1-71	2.95	-
Wedde Creek	SE 1/4 SE 1/4 sec.12, T.17 N., R.9 E., at culvert on County Trunk Y, 6.0 miles southeast of Richford.	-	9- 1-71	14.7	-
*Chaffee Creek	NE 1/4 sec.18, T.17 N., R.10 E., at bridge on country road, 6.5 miles west of Neshkoro.	a40	9- 1-71	35.0	.875
Mecan River	NW 1/4 SE 1/4 sec.28, T.17 N., R.10 E., at bridge on State Highway 22, 5.3 miles northeast of Harrisville.	-	9- 1-71	97.7	-
Mecan River tributary	NW 1/4 NW 1/4 sec.27, T.17 N., R.10 E., at bridge on Duck Creek Avenue, 5.2 miles southwest of Neshkoro.	-	9- 1-71	0	-
Mecan River	SE 1/4 sec.1, T.16 N., R.10 E., at bridge on County Trunk N, 5.3 miles south of Neshkoro.	-	9- 1-71	92.7	-

Kewaunee River basin low-flow investigation

A series of base-flow discharge measurements was made in the Kewaunee River basin during the period August 31-September 1. In the week prior to the measurements, weather records indicate a total of 0.1 inch of precipitation fell in the area. Based on weather records and recorded streamflow data in the region, the discharge measurements are considered to represent low-range base flow.

	Discharge measurements of Kewaunee River and tributaries				
Kewaunee River tributary	SW 1/4 SE 1/4 sec.5, T.24 N., R.23 E., at town road 2.9 miles northwest of Luxemburg.	10.1	8-31-71	0	0

a Approximately.

≠ Other discharge measurements available.

STREAMS TRIBUTARY TO LAKE MICHIGAN

Kewaunee River basin low-flow investigation--Continued

Stream	Location	Drainage area (sq mi)	Measured Discharge		
			Date	Cfs	Cfsm
Discharge measurements of Kewaunee River and tributaries--Continued					
Kewaunee River tributary	NE 1/4 NW 1/4 sec.4, T.24 N., R.23 E., at County Trunk K, 3.5 miles north of Luxemburg.	-	8-31-71	0	0
Kewaunee River	SW 1/4 SW 1/4 sec.34, T.25 N., R.23 E., at County Trunk K, 3.5 miles north of Luxemburg.	-	8-31-71	0	0
Kewaunee River tributary	SE 1/4 SE 1/4 sec.33, T.25 N., R.23 E., at County Trunk A, 3.7 miles north of Luxemburg.	-	8-31-71	0	0
Do	SE 1/4 SW 1/4 sec.34, T.25 N., R.23 E., at County Trunk K, 3.5 miles north of Luxemburg.	-	9- 1-71	.08	-
Kewaunee River	NW 1/4 NW 1/4 sec.11, T.24 N., R.23 E., near bridge on town road, 2.5 miles northeast of Luxemburg.	-	9- 1-71	.37	-
School Creek	NW 1/4 NW 1/4 sec.20, T.24 N., R.23 E., on State Highway 54, 2.0 miles west of Luxemburg.	-	8-31-71	0	0
Do	SW 1/4 NW 1/4 sec.15, T.24 N., R.23 E., at County Trunk A, 1.2 miles north of Luxemburg.	25.7	8-31-71	0	0
Luxemburg Creek	NE 1/4 NE 1/4 sec.15, T.24 N., R.23 E., at bridge on country road, 1.6 miles northeast of Luxemburg.	-	8-31-71	0	0
Casco Creek	NE 1/4 NE 1/4 sec.32, T.25 N., R.24 E., on country road, 3.3 miles north of Casco.	-	9- 1-71	.32	-
Do	SE 1/4 SW 1/4 sec.18, T.24 N., R.24 E., on country road, 1.2 miles southwest of Casco.	-	9- 1-71	1.11	-
Searboro Creek	NE 1/4 SW 1/4 sec.9, T.25 N., R.23 E., on country road, 4.2 miles south of Luxemburg.	-	8-31-71	.86	-
Do	SW 1/4 SW 1/4 sec.35, T.24 N., R.23 E., at country road, 2.7 miles southeast of Luxemburg.	16.6	8-31-71	1.28	.077
Do	NE 1/4 SE 1/4 sec.25, T.24 N., R.23 E., at County Trunk A, 3.1 miles southeast of Luxemburg.	-	9- 1-71	2.32	-
Little Searboro Creek	NW 1/4 NE 1/4 sec.31, T.24 N., R.24 E., at County Trunk A, 4.2 miles southeast of Luxemburg.	-	9- 1-71	1.44	-
Kewaunee River	SW 1/4 SE 1/4 sec.29, T.24 N., R.24 E., at County Trunk C, 5.1 miles east of Luxemburg.	-	9- 1-71	10.8	-

STREAMS TRIBUTARY TO MISSISSIPPI RIVER

Platte River, Jones Branch, and Otter Creek low-flow investigation

A series of base-flow measurements was made in the Platte River, Jones Branch, and Otter Creek basins during the period August 31-September 2. The Platte River is tributary to the Mississippi River and Jones Branch and Otter Creek are tributary to the Pecatonica River. Weather records indicate scattered showers in the areas with up to 1.1 inches of rainfall recorded in Dodgeville on August 23. Based on weather records and recorded streamflow data in the region, the discharge measurements are considered to represent medium-range base flow.

Stream	Location	Drainage area (sq mi)	Date	Cfs	Cfsm
Discharge measurements of Platte River and tributaries					
Platte River	NE 1/4 NW 1/4 sec.9, T.5 N., R.1 W., at bridge on country road, 4.2 miles northwest of Livingston.	9.57	9- 1-71	2.82	.295
Platte River tributary	SW 1/4 SE 1/4 sec.5, T.5 N., R.1 W., at bridge on country road, 4.9 miles northwest of Livingston.	6.73	9- 1-71	2.15	.319
Platte River	NE 1/4 SE 1/4 sec.13, T.5 N., R.2 W., at County Trunk E, 4.1 miles southeast of Stitzer.	26.7	†9- 1-71	8.92	.334
Crow Branch	SE 1/4 NE 1/4 sec.21, T.5 N., R.1 W., at culvert on country road, 3.1 miles west of Livingston.	2.17	9- 1-71	1.07	.490
Do	NW 1/4 NW 1/4 sec.19, T.5 N., R.1 W., at country road, 4.4 miles southeast of Stitzer.	8.86	†9- 1-71	2.37	.267
Leggett Creek	SE 1/4 SE 1/4 sec.3, T.5 N., R.2 W., at bridge on country road, 1.7 miles east of Stitzer.	4.43	9- 1-71	.94	.212
Leggett Creek tributary	SW 1/4 SE 1/4 sec.3, T.5 N., R.2 W., at bridge on country road, 1.6 miles east of Stitzer.	1.93	9- 1-71	.10	.052
Newell Creek	SE 1/4 SE 1/4 sec.2, T.5 N., R.2 W., at bridge on country road, 2.7 miles east of Stitzer.	4.68	9- 1-71	1.19	.250
Leggett Creek	SW 1/4 SW 1/4 sec.13, T.5 N., R.2 W., at County Trunk E, 3.5 miles southeast of Stitzer.	18.4	†9- 1-71	4.67	.254
Platte River tributary	NW 1/4 SE 1/4 sec.33, T.5 N., R.2 W., 0.1 mile downstream from bridge, 5.1 miles east of Lancaster.	13.3	†9- 1-71	3.38	.254
Bull Branch	SE 1/4 NE 1/4 SW 1/4 sec.2, T.4 N., R.2 W., just upstream of confluence with Bacon Branch, 4.8 miles northeast of Ellenboro.	3.41	9- 1-71	.01	.003
Bacon Branch	NE 1/4 SW 1/4 sec.2, T.4 N., R.2 W., at country road, 4.7 miles northeast of Ellenboro.	7.54	†9- 1-71	.71	.094

† Other discharge measurememts available.

STREAMS TRIBUTARY TO MISSISSIPPI RIVER

Platte River, Jones Branch, and Otter Creek low-flow investigation--Continued

Stream	Location	Drainage area (sq mi)	Measured Discharge		
			Date	Cfs	Cfsm
Discharge measurements of Platte River and tributaries--Continued					
Platte River	NW 1/4 NW 1/4 sec.10, T.4 N., R.2 W., at County Trunk A, 5.5 miles east of Lancaster.	r90.7	≠9- 1-71	30.0	.331
Austin Branch	NW 1/4 SE 1/4 sec.17, T.4 N., R.2 W., at mouth, 2.7 miles northwest of Ellenboro.	5.51	≠9- 1-71	3.12	.566
Willow Branch	NW 1/4 SW 1/4 sec.27, T.4 N., R.2 W., at bridge on country road, 0.8 mile northeast of Ellenboro.	7.88	8-31-71	1.29	.164
McPherson Branch	SE 1/4 SE 1/4 sec.29, T.4 N., R.2 W., at country road, 0.8 mile west of Ellenboro.	4.24	≠8-31-71	2.56	.604
Culver Branch	SW 1/4 SE 1/4 sec.4, T.3 N., R.2 W., at bridge on country road, 1.8 miles south of Ellenboro.	3.13	8-31-71	1.09	.348
Blakely Branch	NW 1/4 NE 1/4 sec.20, T.3 N., R.2 W., at bridge on country road, 2.6 miles east of Rockville.	2.69	8-31-71	0	0
Platte River tributary	NW 1/4 NW 1/4 NE 1/4 sec.31, T.3 N., R.2 W., downstream from unnamed tributary, 1.5 miles east of Tennyson.	4.09	8-31-71	2.57	.628
Do	NE 1/4 NW 1/4 NW 1/4 sec.5, T.2 N., R.2 W., 0.3 mile upstream from mouth, 2.5 miles east of Tennyson.	1.50	9- 2-71	.13	.087
Little Platte River	SE 1/4 SW 1/4 sec.25, T.5 N., R.1 W., at culvert on country road, 1.9 miles north of Arthur.	1.98	9- 1-71	.67	.338
Do	SW 1/4 SW 1/4 sec.1, T.4 N., R.1 W., at bridge on County Trunk A, 0.3 mile south of Arthur.	8.99	9- 1-71	3.08	.343
Little Platte River tributary	NW 1/4 NW 1/4 sec.12, T.4 N., R.1 W., at mouth, 0.4 mile south of Arthur.	3.50	9- 1-71	.23	.066
Do	NE 1/4 NE 1/4 sec.16, T.4 N., R.1 W., at culvert on country road, 2.5 miles southwest of Arthur.	4.41	9- 1-71	.43	.098
Do	NW 1/4 SE 1/4 sec.22, T.4 N., R.1 W., at culvert on country road, 3.3 miles southwest of Arthur.	1.89	9- 1-71	.34	.180
Mounds Branch tributary	SW 1/4 NW 1/4 sec.35, T.4 N., R.1 W., at mouth, 4.8 miles south of Arthur.	1.59	9- 1-71	.58	.365
Mounds Branch	SW 1/4 NW 1/4 sec.35, T.4 N., R.1 W., at bridge on State Highway 80, 4.8 miles south of Arthur.	16.0	9- 1-71	3.25	.203
Young Branch	NW 1/4 SE 1/4 sec.6, T.3 N., R.1 W., at country road, 3.3 miles northwest of Platteville.	2.32	≠9- 2-71	.20	.086
Roundtree Branch	SW 1/4 SE 1/4 sec.16, T.3 N., R.1 W., at culvert on country road, 1.0 mile southwest of city hall, Platteville.	11.9	9- 2-71	2.80	.235
Do	SE 1/4 NE 1/4 sec.18, T.3 N., R.1 W., at farm road, at mouth, 2.9 miles west of Platteville.	14.1	9- 2-71	4.97	.352
Little Platte River	SE 1/4 NE 1/4 sec.35, T.3 N., R.2 W., at County Trunk O, 6.0 miles east of Tennyson.	88.8	≠8-31-71	23.7	.266
Little Platte River tributary	NE 1/4 SW 1/4 sec.36, T.3 N., R.2 W., at bridge on County Trunk O, 4.6 miles northeast of Dickeyville.	1.54	8-31-71	.08	.052
Little Platte River	NE 1/4 SE 1/4 sec.11, T.2 N., R.2 W., at country road, 2.5 miles northeast of Dickeyville.	94.0	≠8-30-71	20.8	.221
Blockhouse Creek tributary	NE 1/4 SW 1/4 sec.33, T.3 N., R.1 W., at bridge on farm road, 3.3 miles south of Platteville.	1.16	9- 1-71	0	0
Blockhouse Creek	NE 1/4 SE 1/4 sec.33, T.3 N., R.1 W., at bridge on County Trunk D, 3.3 miles south of Platteville.	8.21	9- 1-71	1.37	.165
Snowden Branch	SE 1/4 SW 1/4 sec.3, T.2 N., R.1 W., at culvert on County Trunk D, 3.0 miles north of Georgetown.	2.90	9- 1-71	.08	.028
Do	NW 1/4 SE 1/4 sec.8, T.2 N., R.1 W., just upstream of confluence with French Creek, 2.9 miles northwest of Georgetown.	4.35	9- 2-71	1.09	.251
French Creek	SE 1/4 SW 1/4 sec.15, T.2 N., R.1 W., at bridge on County Trunk D, 1.1 miles north of Georgetown.	5.75	9- 1-71	.66	.115
Do	SW 1/4 SE 1/4 sec.8, T.2 N., R.1 W., 400 feet upstream of mouth, 2.8 miles northwest of Georgetown.	9.90	9- 2-71	1.07	.108
McAdam Branch tributary	NE 1/4 SE 1/4 sec.24, T.2 N., R.2 W., at mouth, 2.3 miles east of Dickeyville.	1.64	9- 1-71	.36	.220
McAdam Branch	NE 1/4 SE 1/4 sec.24, T.2 N., R.2 W., at bridge on country road, 2.3 miles east of Dickeyville.	8.21	9- 1-71	2.63	.320
Do	SE 1/4 NW 1/4 sec.14, T.2 N., R.2 W., at bridge on U.S. Highway 151, 1.5 miles northeast of Dickeyville.	13.2	9- 1-71	3.81	.289
Little Platte River	SE 1/4 NE 1/4 SW 1/4 sec.10, T.2 N., R.2 W., 1.5 miles downstream from McAdam Branch, 2.1 miles north of Dickeyville.	146	9- 1-71	34.2	.234
Discharge measurements of Jones Branch and tributaries					
Jones Branch	SE 1/4 SE 1/4 NE 1/4 sec.27, T.4 N., R.1 E., 1.7 miles northeast of Leslie.	-	8-31-71	.29	-

r Revised.

≠ Other discharge measurements available.

STREAMS TRIBUTARY TO MISSISSIPPI RIVER

Platte River, Jones Branch, and Otter Creek low-flow investigation--Continued

Stream	Location	Drainage area (sq mi)	Measured Discharge Date	 Cfs	 Cfsm
	Discharge measurements of Jones Branch and tributaries--Continued				
Jones Branch tributary	SE 1/4 SE 1/4 NE 1/4 sec.27, T.4 N., R.1 E., at mouth, and 1.8 miles northeast of Leslie.	-	8-31-71	.17	-
Do	SW 1/4 SW 1/4 NW 1/4 sec.26, T.4 N., R.1 E., 1.8 miles northeast of Leslie.	-	8-31-71	0	-
Do	SE 1/4 NW 1/4 NW 1/4 sec.26, T.4 N., R.1 E., at mouth, and 2.0 miles northeast of Leslie.	-	8-31-71	.37	-
Jones Branch	SW 1/4 NE 1/4 NW 1/4 sec.26, T.4 N., R.1 E., 2.1 miles northeast of Leslie.	-	8-31-71	.79	-
Do	SW 1/4 SE 1/4 sec.23, T.4 N., R.1 E., at bridge on country road, 2.7 miles northeast of Leslie.	-	8-31-71	.93	-
Do	NE 1/4 SE 1/4 NE 1/4 sec.23, T.4 N., R.1 E., 0.45 mile upstream from mouth, 3.3 miles northeast of Leslie.	-	8-31-71	1.37	-
	Discharge measurements of Otter Creek and tributaries				
Otter Creek	SW 1/4 SW 1/4 sec.1, T.4 N., R.3 E., at bridge on country road, 2.9 miles northwest of Waldwick.	1.95	9- 1-71	.24	.123
Do	NW 1/4 SW 1/4 sec.14, T.4 N., R.3 E., at bridge on County Trunk S, 3.4 miles west of Waldwick.	3.30	9- 1-71	1.49	.451
Otter Creek tributary	SE 1/4 SE 1/4 sec.10, T.4 N., R.3 E., at bridge on country road, 3.8 miles southeast of Mineral Point.	1.50	9- 1-71	0	0
Do	SW 1/4 NE 1/4 sec.15, T.4 N., R.3 E., at bridge on County Trunk S, 3.9 miles west of Waldwick.	1.79	9- 1-71	0	0
Do	SW 1/4 SE 1/4 sec.15, T.4 N., R.3 E., at bridge on country road, 4.0 miles west of Waldwick.	1.98	9- 1-71	0	0
Do	NE 1/4 NW 1/4 sec.22, T.4 N., R.3 E., at bridge on country road, 4.1 miles west of Waldwick.	1.32	9- 1-71	0	0
Otter Creek	NW 1/4 NW 1/4 sec.26, T.4 N., R.3 E., at bridge on country road, 3.9 miles southwest of Waldwick.	3.23	9- 1-71	2.97	.919
Otter Creek tributary	SW 1/4 SE 1/4 sec.1, T.4 N., R.3 E., at bridge on country road, 2.2 miles northwest of Waldwick.	.97	9- 1-71	0	0
Do	SW 1/4 SW 1/4 sec.12, T.4 N., R.3 E., at culvert on country road, 2.4 miles west of Waldwick.	2.01	9- 1-71	.63	.313
Do	SE 1/4 SW 1/4 sec.23, T.4 N., R.3 E., at bridge on country road, 3.7 miles southwest of Waldwick.	3.66	9- 1-71	1.05	.287
Do	SE 1/4 SE 1/4 sec.23, T.4 N., R.3 E., at bridge on country road, 3.3 miles southwest of Waldwick.	2.37	9- 1-71	.81	.342
Otter Creek	SE 1/4 SE 1/4 sec.35, T.4 N., R.3 E., near bridge on County Trunk G, just upstream of confluence with tributary, 3.2 miles west of Fayette.	20.0	9- 1-71	6.06	.303
Otter Creek tributary	SE 1/4 SE 1/4 sec.35, T.4 N., R.3 E., at mouth, 3.2 miles west of Fayette.	1.39	9- 1-71	.23	.165
Otter Creek	NW 1/4 NW 1/4 sec.13, T.3 N., R.3 E., at bridge on country road, just downstream of confluence with tributary, 3.1 miles west of Fayette.	28.4	8-31-71	8.07	.284
Do	NE 1/4 SE 1/4 sec.24, T.3 N., R.3 E., at bridge on County Trunk F, 3.2 miles southwest of Fayette.	30.7	8-31-71	8.30	.270
Otter Creek tributary	SW 1/4 NW 1/4 sec.17, T.3 N., R.4 E., at bridge on County Trunk F, 1.6 miles southwest of Fayette.	1.39	8-31-71	0	0
Do	NE 1/4 SE 1/4 sec.24, T.3 N., R.3 E., at bridge on country road, 3.3 miles southwest of Fayette.	5.23	8-31-71	.31	.059
Do	SE 1/4 SW 1/4 sec.20, T.3 N., R.4 E., at bridge on country road, 3.0 miles south of Fayette.	1.61	8-31-71	.11	.068
Do	NW 1/4 SE 1/4 sec.31, T.3 N., R.4 E., at bridge on farm road, 2.9 miles east of Darlington.	8.19	8-31-71	1.34	.164
Do	NE 1/4 SE 1/4 sec.31, T.3 N., R.4 E., at bridge on farm road, 3.1 miles east of Darlington.	1.21	8-31-71	0	0
Otter Creek	SE 1/4 NW 1/4 sec.6, T.2 N., R.4 E., 0.5 mile upstream from mouth, and 2.8 miles east of Darlington.	49.4	≠8-31-71	11.14	.226

≠ Other discharge measurements available.

PART 2. WATER QUALITY RECORDS

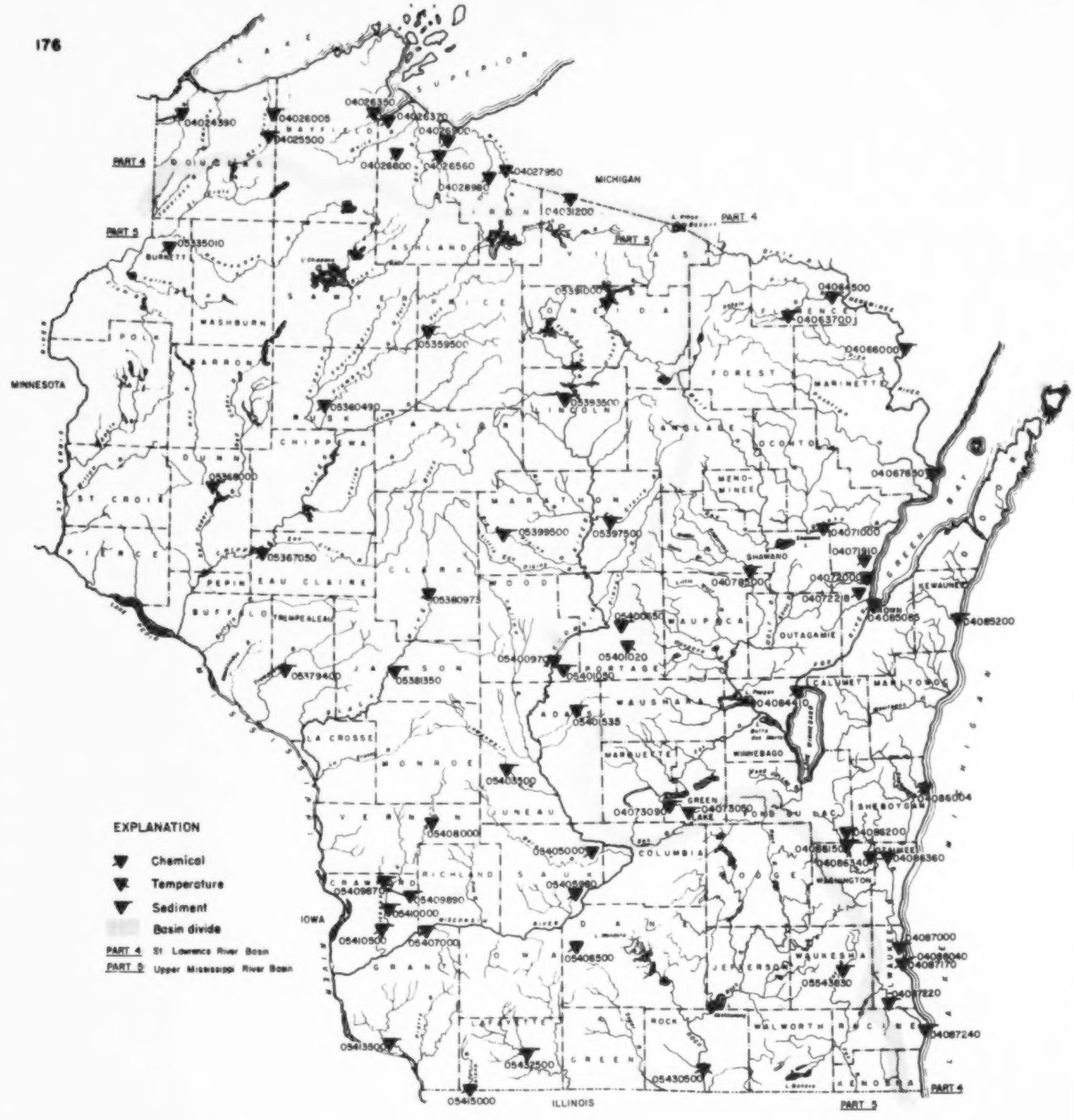
LAKE SUPERIOR
MICHIGAN
MINNESOTA
IOWA
ILLINOIS
LAKE MICHIGAN
GREEN BAY
PART 4
PART 5
04024390
04026005
04025500
04026350
04026370
04026300
04026600
04026560
04027950
04028960
04031200
05335010
05391000
04064500
04063700
04066000
05359500
05393500
05360490
05368000
05367050
05399500
05397500
04067650
04071000
04071910
04072050
04072218
04078500
04085065
04085200
05380975
05400650
05401020
05400970
05401050
05379400
05381350
04084410
05401535
05403500
04073090
04073050
04086004
05408000
05405000
04086200
04086150
04086340
04086360
05409670
05409890
05405950
05410000
05410500
05407000
05406500
04087000
04087040
04087170
05543830
04087220
04087240
05413500
05432500
05430500
05415000
BAYFIELD
DOUGLAS
ASHLAND
IRON
BURNETT
WASHBURN
SAWYER
PRICE
ONEIDA
VILAS
FLORENCE
FOREST
MARINETTE
POLK
BARRON
RUSK
LINCOLN
TAYLOR
LANGLADE
OCONTO
MENOMINEE
CHIPPEWA
DUNN
ST. CROIX
PIERCE
PEPIN
EAU CLAIRE
CLARK
MARATHON
SHAWANO
WOOD
BUFFALO
TREMPEALEAU
JACKSON
PORTAGE
WAUPACA
OUTAGAMIE
BROWN
KEWAUNEE
DOOR
CALUMET
MANITOWOC
WAUSHARA
ADAMS
WINNEBAGO
LA CROSSE
MONROE
JUNEAU
MARQUETTE
GREEN LAKE
FOND DU LAC
SHEBOYGAN
VERNON
RICHLAND
SAUK
COLUMBIA
DODGE
WASHINGTON
OZAUKEE
CRAWFORD
GRANT
IOWA
DANE
JEFFERSON
WAUKESHA
MILWAUKEE
LAFAYETTE
GREEN
ROCK
WALWORTH
RACINE
KENOSHA
EXPLANATION
Chemical
Temperature
Sediment
Basin divide
PART 4 St. Lawrence River Basin
PART 5 Upper Mississippi River Basin

Figure 6. Map of Wisconsin showing location of stations where water-quality data were obtained.

04063700 POPPLE RIVER NEAR FENCE, WIS.
(Hydrologic bench-mark station)

LOCATION.--Lat 45°45'49", long 88°27'47", in NW 1/4 sec.23, T.38 N., R.16 E., Florence County, temperature recorder at gaging station,on left bank 20 ft upstream from bridge on U.S. Forest Service Road 2159, 1.8 miles downstream from Mud Creek, 2.6 miles northwest of Fence, and at mile 11.5.
DRAINAGE AREA.--131 sq mi.
PERIOD OF RECORD.--Chemical analyses: October 1968 to September 1971.
Water temperatures: June 1964 to September 1971.
EXTREMES, 1970-71.--Water temperatures: Maximum, 26.5°C June 28, 29; minimum, freezing point on many days during November to April.
EXTREMES, 1964-71.--Water temperatures: Maximum, 29.0°C July 1, 2, 1970; minimum, freezing point on many days during winter months.
REMARKS.--Miscellaneous samples of chemical data published for water years 1964-67. Laboratory analyses of biological constituents furnished by State Lab of Hygiene, Madison, Wisconsin.

WATER QUALITY DATA, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	CAR- BONATE (CO3) (MG/L)	ALKA- LINITY AS CACO3 (MG/L)	SULFATE (SO4) (MG/L)	CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER DAY)
OCT. 20...	0	89	12	1.0	.4	.4	128	116	14.9
DEC. 16...	--	--	--	--	--	--	--	--	--
JAN. 20...	0	84	10	2.0	.2	1.8	125	114	16.9
MAR. 22...	0	64	16	2.0	.2	.7	102	98	16.8
APR. 20...	0	21	17	2.0	.0	.6	66	53	153
JUNE 02...	0	57	8.8	1.0	.2	.2	88	73	26.4
JULY 07...	0	109	6.0	1.2	.2	.5	134	115	13.7
AUG. 12...	0	113	5.6	1.5	.2	.9	126	127	14.6
SEP. 08...	0	116	5.6	1.0	.2	.3	120	127	11.7

DATE	DIS- SOLVED SOLIDS (TONS PER AC-FT)	HARD- NESS (CA,MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	COLOR (PLAT- INUM- COBALT UNITS)	SPECI- FIC COND- UCTANCE (MICRO- MHOS)	PH (UNITS)	BIO- CHEM- ICAL OXYGEN DEMAND (MG/L)	IMME- DIATE COLI- FORM (COL. PER 100 ML)	FECAL COLI- FORM (COL. PER 100 ML)
OCT. 20...	.17	100	14	60	191	7.4	1.5	2900	<5
DEC. 16...	--	--	--	--	--	--	<1.0	410	<5
JAN. 20...	.17	90	6	50	183	7.2	2.5	100	<5
MAR. 22...	.14	78	14	60	144	7.2	1.5	20	<5
APR. 20...	.09	38	16	75	61	6.8	1.2	110	<5
JUNE 02...	.12	63	6	100	123	7.1	1.0	240	<5
JULY 07...	.18	110	1	40	213	7.3	<1.0	300	<10
AUG. 12...	.17	120	7	27	219	7.4	1.5	800	15
SEP. 08...	.16	120	4	28	222	7.2	<1.0	130	20

04063700 POPPLE RIVER NEAR FENCE, WIS.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	SODIUM AD-SORP-TION RATIO	PERCENT SODIUM	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)
OCT. 20...	43	7.0	12	25	9.7	1.0	.0	2	.8	108
DEC. 16...	--	--	--	--	--	--	--	--	--	--
JAN. 20...	50	.0	17	20	9.9	1.7	.1	4	.7	102
MAR. 22...	61	.0	14	16	9.2	1.2	.1	3	.6	78
APR. 20...	856	8.0	5.6	9.6	3.5	.9	.1	5	.6	26
JUNE 02...	111	11.5	5.8	15	6.2	1.6	.1	5	.2	70
JULY 07...	38	20.5	8.1	25	12	1.5	.1	3	.8	133
AUG. 12...	43	16.0	9.4	24	14	1.8	.1	3	.9	138
SEP. 08...	36	20.0	9.7	22	15	1.8	.1	3	1.0	142

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	HEXA-VALENT CHRO-MIUM (CR6) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	TOTAL MERCURY (HG) (UG/L)
OCT. 09...	51	14.5	5	0	0	1	10	0	.1	.1

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	ALDRIN (UG/L)	CHLOR-DANE (UG/L)	DDD (UG/L)	DDE (UG/L)	DDT (UG/L)	DI-ELDRIN (UG/L)	ENDRIN (UG/L)	HEPTA-CHLOR (UG/L)	HEPTA-CHLOR EPOXIDE (UG/L)
JUNE 02...	110	11.5	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	LINDANE (UG/L)	2,4-D (UG/L)	2,4,5-T (UG/L)	SILVEX (UG/L)	PARA-THION (UG/L)	METHYL PARA-THION (UG/L)	MALA-THION (UG/L)	DI-AZINON (UG/L)	TOX-APHENE (UG/L)	ALDRIN IN BOTTOM DE-POSITS (UG/KG)	DDD IN BOTTOM DE-POSITS (UG/KG)
JUNE 02...	.00	.00	.00	.00	.00	.00	.00	.00	.00	<.20	<.20

DATE	DDE IN BOTTOM DE-POSITS (UG/KG)	DI-ELDRIN IN BOTTOM DE-POSITS (UG/KG)	ENDRIN IN BOTTOM DE-POSITS (UG/KG)	HEPTA-CHLOR IN BOTTOM DE-POSITS (UG/KG)	HEPTA-CHLOR EPOXIDE IN BOT-TOM DE-POSITS (UG/KG)	LINDANE IN BOTTOM DE-POSITS (UG/KG)	CHLOR-DANE IN BOTTOM DE-POSITS (UG/KG)	PARA-THION IN BOTTOM DE-POSITS (UG/KG)	METHYL PARA-THION IN BOT-TOM DE-POSITS (UG/KG)	MALA-THION IN BOTTOM DE-POSITS (UG/KG)
JUNE 02...	<.20	<.20	<.20	<.20	<.20	<.20	<.10	<.20	<.20	<.20

04063700 POPPLE RIVER NEAR FENCE, WIS.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971
(CONTINUOUS ETHYL ALCOHOL-ACTUATED THERMOGRAPH)

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	11.0	8.0	4.5	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	10.5	9.0	4.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	9.5	8.0	3.5	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	8.0	5.5	3.5	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	9.0	5.5	3.5	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	11.0	8.5	3.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	13.0	11.0	3.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	13.0	12.0	2.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	12.0	11.0	3.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	11.0	8.0	4.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	8.0	6.5	3.5	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	9.0	7.0	3.5	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	8.5	6.5	3.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	9.0	7.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	7.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	5.5	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	6.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	6.5	4.5	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	7.0	4.5	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	6.5	5.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	7.0	5.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	8.5	6.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	9.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	9.0	8.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	8.5	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26	8.5	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	8.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	8.5	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	8.0	5.5	0.0	0.0	0.0	0.0	0.0	0.0	---	---	0.0	0.0
30	5.5	5.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---	0.0	0.0
31	5.0	4.5	---	---	0.0	0.0	0.0	0.0	---	---	0.0	0.0
MONTH	13.0	3.5	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	0.0	0.0	5.5	5.0	11.5	10.0	23.5	21.0	17.0	16.0	18.5	15.0
2	0.0	0.0	7.0	4.5	14.0	11.0	22.0	18.0	17.0	15.0	21.0	17.0
3	0.0	0.0	9.0	5.5	19.0	12.0	23.5	19.0	17.0	14.5	22.0	19.0
4	0.0	0.0	8.5	6.5	21.0	15.5	23.0	21.0	18.5	14.5	22.0	20.0
5	0.0	0.0	9.0	6.5	22.0	19.0	23.5	20.0	19.0	15.5	21.0	19.0
6	0.0	0.0	11.0	7.0	23.0	18.5	23.5	20.0	20.5	16.5	20.5	19.0
7	0.0	0.0	12.0	8.5	22.0	15.5	23.0	19.0	22.0	18.5	21.0	18.0
8	0.0	0.0	13.5	10.0	18.5	13.5	23.5	20.0	22.0	19.5	20.5	18.5
9	0.0	0.0	14.0	10.0	19.0	14.5	23.5	19.5	23.5	20.0	19.5	16.5
10	0.0	0.0	15.5	10.5	18.0	15.0	23.0	19.5	23.0	20.0	16.5	15.5
11	0.0	0.0	14.0	9.5	20.0	15.5	22.0	18.5	20.0	17.0	16.0	14.5
12	0.5	0.0	9.5	8.0	23.0	18.5	21.5	19.0	18.5	15.5	15.5	13.5
13	1.5	0.0	13.0	6.5	23.5	19.0	19.0	18.0	18.0	16.0	16.5	13.5
14	3.5	0.5	14.5	9.0	23.0	19.5	20.0	16.0	18.5	16.5	16.0	13.5
15	5.0	2.0	16.0	11.0	22.0	19.0	20.5	18.0	18.5	14.5	15.0	11.5
16	5.5	3.5	16.5	11.5	23.0	19.0	20.5	18.5	19.5	15.5	13.5	11.0
17	8.0	5.0	15.0	12.0	24.5	20.0	20.0	15.5	20.5	16.5	13.5	11.0
18	8.0	5.5	13.5	10.5	24.0	20.5	20.0	14.5	20.5	18.5	12.0	10.0
19	7.0	6.0	10.5	9.0	20.5	18.0	18.5	13.5	20.5	19.0	11.0	10.0
20	9.5	6.5	9.0	8.0	20.0	19.0	20.0	15.5	20.5	18.0	11.5	9.5
21	9.0	6.5	11.5	7.0	20.5	16.5	21.0	18.0	20.5	18.0	11.5	9.5
22	9.0	6.5	13.5	9.0	21.0	18.5	21.0	20.0	20.5	18.0	11.0	10.0
23	8.0	5.5	12.0	9.5	20.5	18.0	22.0	19.5	18.0	14.5	11.0	9.5
24	6.0	4.5	9.5	9.0	20.0	17.0	21.5	18.0	18.0	14.5	11.0	8.5
25	6.5	5.5	9.0	7.0	17.0	15.5	21.5	19.5	14.5	13.5	11.0	9.0
26	8.5	5.5	9.0	6.0	20.0	14.5	20.5	18.0	15.5	13.0	10.0	10.0
27	8.0	5.0	11.0	6.5	24.5	18.0	18.5	15.5	16.5	13.5	11.0	10.0
28	5.0	4.0	14.0	9.5	26.5	22.0	18.0	16.0	18.5	14.0	13.5	11.0
29	5.0	3.5	15.5	11.5	26.5	23.5	18.0	14.5	19.0	15.5	14.0	11.5
30	5.5	4.5	15.0	13.5	25.0	22.0	17.0	15.0	19.0	16.5	14.0	11.0
31	---	---	13.5	11.0	---	---	17.0	13.5	16.5	14.5	---	---
MONTH	9.5	0.0	16.5	4.5	26.5	10.0	23.5	13.5	23.5	13.0	22.0	8.5
YEAR	26.5	0.0										

04063700 POPPLE RIVER NEAR FENCE, WIS.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DISCHARGE (CFS)	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION
OCT.						
20...	43	7.0	200	7.8	11.4	78
DEC.						
16...	76	.0	160	7.0	12.0	82
JAN.						
20...	50	.0	220	7.2	11.4	78
FEB.						
16...	53	.0	180	7.2	11.5	79
MAR.						
22...	101	.0	190	6.8	10.5	73
APR.						
20...	860	8.0	50	6.8	9.6	83
JUNE						
02...	111	11.5	130	7.4	10.2	93
JULY						
07...	38	20.5	220	7.8	7.9	87
AUG.						
12...	43	16.0	230	7.8	9.0	90
SEP.						
08...	36	20.0	240	9.0	10.0	109

DATE	TIME	DISCHARGE (CFS)	SUSPENDED SEDIMENT (MG/L)	SUSPENDED SEDIMENT DISCHARGE (T/DAY)
OCT.				
20...	1245	43	3	.41
FEB.				
16...	1300	53	5	.72
MAR.				
22...	1405	100	6	1.6
APR.				
16...	0845	658	5	8.9
20...	1200	856	6	14
JUNE				
02...	1100	111	2	.60
JULY				
07...	1100	38	1	.15
07...	1105	38	2	.15
AUG.				
13...	1200	43	4	.46
13...	1205	44	4	.52
SEP.				
08...	1325	36	10	.97

04086040 LAKE MICHIGAN AT MILWAUKEE, WIS.

LOCATION.--Lat 43°04'56", long 87°50'44", SW 1/4 SW 1/4 NW 1/4 sec.12, T.7 N., R.22 E., Milwaukee County, at City of Milwaukee public water supply intake, 1.1 miles offshore and at mile 624.40.

DRAINAGE AREA.--67,900 sq mi. Surface area: 22,400 sq mi.

PERIOD OF RECORD.--Chemical analyses: October 1969 to September 1971.

REMARKS.--Samples are taken from the raw water tap in the Linwood Purification Plant Laboratory. Analyses are performed by purification plant personnel, USGS, and EPA-WQO. Drainage area and surface area provided by EPA-WQO. Station operated by FWQA during period August 1960 to September 1969.

WATER QUALITY DATA, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	TEMPERATURE (DEG C)	SILICA (SIO2) (MG/L)	SODIUM (NA) (MG/L)	POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	CARBONATE ALKALINITY AS CACO3 (MG/L)	SULFATE (SO4) (MG/L)	CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	NITRATE (NO3) (MG/L)
OCT.												
05...	10.7	--	--	--	123	5	109	3	20	7.4	--	--
12...	7.2	--	--	--	--	0	--	0	20	7.5	--	--
19...	8.3	--	--	--	133	0	109	0	21	7.8	--	--
19-26	--	--	--	--	--	--	--	--	--	--	--	--
26...	7.2	--	--	--	133	0	109	0	20	7.7	--	--
NOV.												
02...	6.2	--	--	--	134	0	110	0	19	7.7	--	--
09...	7.5	--	--	--	125	7	108	4	19	7.5	--	--
13-20	--	--	--	--	--	--	--	--	--	--	--	--
16...	8.7	--	--	--	132	0	108	0	20	7.8	--	--
23...	7.5	--	--	--	122	8	107	5	20	7.7	--	--
30...	5.8	--	--	--	123	7	107	4	19	7.8	--	--
DEC.												
07...	4.8	--	6.0	1.1	123	7	107	4	21	7.8	.1	--
14...	3.7	--	--	--	130	0	107	0	21	7.5	--	--
18-25	--	--	--	--	--	--	--	--	--	--	--	--
21...	3.0	--	--	--	132	0	108	0	20	8.0	--	--
28...	2.1	--	--	--	132	0	108	0	20	7.2	--	--
JAN.												
04...	1.2	--	--	--	134	0	110	0	21	9.1	--	--
11...	1.3	--	--	--	132	0	108	0	20	8.0	--	--
13-19	--	--	--	--	--	--	--	--	--	--	--	--
18...	.7	--	--	--	129	0	105	0	19	8.0	--	--
25...	.3	--	--	--	130	0	107	0	20	7.9	--	--
FEB.												
01...	.3	--	--	--	129	0	106	0	20	7.8	--	--
05-11	--	--	--	--	--	--	--	--	--	--	--	--
08...	.2	--	--	--	133	0	109	0	21	7.9	--	--
15...	.2	--	--	--	132	0	108	0	21	7.4	--	--
22...	.4	--	--	--	135	0	111	0	20	8.0	--	--
MAR.												
01...	.7	--	--	--	130	0	107	0	23	11	--	--
08...	.2	--	--	--	133	0	109	0	22	7.6	--	--
09-15	--	--	--	--	--	--	--	--	--	--	--	--
15...	.7	--	--	--	135	0	111	0	20	9.4	--	--
22...	.8	1.1	--	--	132	0	108	0	22	7.6	--	1.1
29...	1.0	1.1	--	--	135	0	111	0	23	10	--	1.4
APR.												
05...	1.2	--	--	--	132	0	108	0	21	8.5	--	.8
12...	3.1	--	--	--	139	0	114	0	24	10	.2	1.3

04086040 LAKE MICHIGAN AT MILWAUKEE, WIS.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	ORGANIC NITROGEN (N) (MG/L)	AMMONIA NITROGEN (N) (MG/L)	NITRATE (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	DISSOLVED PHOSPHORUS (P) (MG/L)	PHOSPHATE (PO4) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (TONS PER AC-FT)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)
OCT.												
05...	.21	.00	.2	.030	.030	.00	154	.21	--	--	--	1
12...	--	--	--	--	--	.00	152	.21	132	--	1	1
19...	--	--	--	--	--	.00	152	.21	131	22	1	1
19-26	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	.00	153	.21	132	23	1	1
NOV.												
02...	.17	.02	.4	.020	.010	.00	157	.21	131	21	1	1
09...	--	--	--	--	--	.00	148	.20	131	17	1	1
13-20	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	.00	144	.20	129	16	1	1
23...	--	--	--	--	--	.00	144	.20	128	14	1	1
30...	--	--	--	--	--	.00	--	--	132	10	--	2
DEC.												
07...	.00	.01	.3	1.6	.54	.00	139	.19	132	10	1	2
14...	--	--	--	--	--	.00	158	.21	131	24	1	2
18-25	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	.00	156	.21	132	24	1	2
28...	--	--	--	--	--	.00	148	.20	131	23	1	3
JAN.												
04...	.05	.02	.4	.060	.060	.00	149	.20	133	23	1	13
11...	--	--	--	--	--	.00	149	.20	132	24	1	1
13-19	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	.00	142	.19	130	24	1	2
25...	--	--	--	--	--	.00	162	.22	133	26	1	1
FEB.												
01...	.01	.01	.3	.000	.000	.00	138	.19	132	26	1	1
05-11	--	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	.00	143	.19	133	24	1	1
15...	--	--	--	--	--	.00	159	.22	132	24	1	1
22...	--	--	--	--	--	.00	165	.22	131	20	1	8
MAR.												
01...	.02	.00	.3	.010	.000	.00	171	.23	133	26	1	2
08...	--	--	--	--	--	.00	155	.21	129	20	1	3
09-15	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	.10	164	.22	134	24	1	2
22...	--	--	--	--	--	.00	150	.20	130	22	1	3
29...	--	--	--	--	--	.00	165	.22	135	24	1	7
APR.												
05...	.00	.02	.3	.010	.010	.00	158	.21	131	23	1	1
12...	--	--	--	--	--	.00	176	.23	136	22	1	1

04086040 LAKE MICHIGAN AT MILWAUKEE, WIS.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	BIOCHEMICAL OXYGEN DEMAND (MG/L)	CHEMICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	IMMEDIATE COLIFORM (COL. PER 100 ML)	SAMPLE SIZE (GALS)	TOTAL CARBON EXTRACTABLES (UG/L)	CARBON CHLOROFORM EXTRACTABLES (UG/L)	CARBON ALCOHOL EXTRACTABLES (UG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)
OCT.												
05...	--	8.4	.5	18	10.8	96	23	--	--	--	--	.00
12...	--	8.0	.7	8	11.0	91	160	--	--	--	--	--
19...	--	8.1	.5	10	11.2	95	340	--	--	--	--	--
19-26	--	--	--	--	--	--	--	385	319	35	284	--
26...	--	8.1	1.5	7	10.7	88	45	--	--	--	--	--
NOV.												
02...	278	8.0	.6	7	10.9	88	300	--	--	--	--	.02
09...	--	8.4	.5	7	11.0	96	52	--	--	--	--	--
13-20	--	--	--	--	--	--	--	331	279	26	253	--
16...	--	8.3	.3	9	11.2	96	24	--	--	--	--	--
23...	--	8.4	.8	10	11.5	96	6	--	--	--	--	--
30...	--	8.4	--	8	11.8	94	16	--	--	--	--	--
DEC.												
07...	278	8.4	.4	11	12.0	93	18	--	--	--	--	.06
14...	--	8.3	.3	8	12.4	94	6	--	--	--	--	--
18-25	--	--	--	--	--	--	--	335	407	35	372	--
21...	--	8.2	.1	9	12.6	93	22	--	--	--	--	--
28...	--	8.2	.1	5	12.8	93	8	--	--	--	--	--
JAN.												
04...	290	8.2	.8	10	13.0	92	500	--	--	--	--	.00
11...	--	8.2	.3	7	13.0	92	10	--	--	--	--	--
13-19	--	--	--	--	--	--	--	336	523	98	425	--
18...	--	8.2	.4	6	13.3	92	10	--	--	--	--	--
25...	--	8.2	--	8	13.8	95	23	--	--	--	--	--
FEB.												
01...	279	8.2	.3	7	13.4	92	11	--	--	--	--	.03
05-11	--	--	--	--	--	--	--	331	382	36	346	--
08...	--	8.1	.3	11	13.8	94	8	--	--	--	--	--
15...	--	8.3	.3	8	13.6	93	0	--	--	--	--	--
22...	--	8.2	.9	7	14.3	99	210	--	--	--	--	--
MAR.												
01...	302	8.3	1.1	9	13.4	93	1900	--	--	--	--	.04
08...	--	8.3	.7	9	14.0	96	33	--	--	--	--	--
09-15	--	--	--	--	--	--	--	344	367	41	326	--
15...	--	8.3	.5	9	13.7	95	460	--	--	--	--	--
22...	--	8.3	.6	9	13.5	94	24	--	--	--	--	--
29...	--	8.2	.8	11	13.1	92	380	--	--	--	--	--
APR.												
05...	284	8.2	.6	7	13.7	96	41	--	--	--	--	.04
12...	--	8.3	--	11	13.5	100	130	--	--	--	--	--

04086040 LAKE MICHIGAN AT MILWAUKEE, WIS.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	TEMP-ERATURE (DEG C)	SILICA (SIO2) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	CARBON-ATE ALKA-LINITY AS CACO3 (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)
APR.											
12-20	--	--	--	--	--	--	--	--	--	--	--
19...	3.5	1.0	--	--	132	0	108	0	21	8.5	--
26...	3.8	1.0	--	--	132	0	108	0	22	7.6	--
MAY											
03...	5.4	.7	--	--	120	7	110	4	21	7.9	--
10...	5.9	.7	--	--	120	7	110	4	21	7.9	.2
17...	5.8	1.2	--	--	132	0	109	--	20	7.9	.4
24...	6.3	1.0	--	--	123	6	111	4	23	8.5	.3
JUNE											
01...	7.0	1.1	4.7	1.3	120	5	107	3	20	7.7	.2
07...	7.0	1.2	--	--	122	5	109	3	22	7.8	.2
14...	6.8	1.1	4.6	1.2	119	7	109	4	21	7.7	.2
21...	7.6	1.0	--	--	133	0	109	0	20	7.8	.3
28...	8.8	1.0	--	--	118	7	108	4	21	7.4	.2
JULY											
06...	7.1	.9	--	--	127	3	109	2	20	8.1	.2
13...	6.8	1.2	--	--	132	0	109	0	20	8.0	--
19...	5.8	1.4	--	--	132	0	109	0	21	7.9	--
26...	6.7	1.2	--	--	134	0	109	0	21	7.9	.2
AUG.											
02...	5.6	--	--	--	131	0	107	0	--	7.8	.2
09...	8.0	1.2	--	--	134	0	109	0	21	7.6	.2
16...	10.8	1.4	--	--	134	0	110	0	20	7.8	.2
23...	15.3	--	--	--	122	8	108	5	19	7.8	.2
31...	16.8	--	--	--	106	13	108	8	20	7.6	.2
SEP.											
08...	5.6	1.7	--	--	130	0	107	0	21	7.6	.2
13...	16.7	--	--	--	110	10	107	6	21	7.6	.2
20...	17.4	--	--	--	118	5	105	3	20	7.9	--
27...	6.6	1.8	--	--	132	0	108	0	20	7.4	.2

04086040 LAKE MICHIGAN AT MILWAUKEE, WIS.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	NITRATE (NO3) (MG/L)	ORGANIC NITROGEN (N) (MG/L)	AMMONIA NITROGEN (N) (MG/L)	NITRATE (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	DISSOLVED PHOSPHORUS (P) (MG/L)	PHOSPHATE (PO4) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (TONS PER AC-FT)	HARDNESS (CA,MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)
APR.											
12-20	--	--	--	--	--	--	--	--	--	--	--
19...	.8	--	--	--	--	--	.00	150	.20	130	22
26...	1.2	--	--	--	--	--	.00	148	.20	129	20
MAY											
03...	1.1	.00	.00	.2	.010	.010	.00	151	.21	132	22
10...	.9	--	--	--	--	--	.00	154	.21	130	20
17...	.8	--	--	--	--	--	.00	--	--	130	22
24...	1.8	--	--	--	--	--	.00	155	.21	130	29
JUNE											
01...	.8	.07	.02	.3	.000	.000	.00	148	.20	130	23
07...	.8	--	--	--	--	--	.00	150	.20	128	20
14...	.8	--	--	--	--	--	.00	146	.20	130	21
21...	.5	--	--	--	--	--	.00	143	.19	129	20
28...	.6	--	--	--	--	--	.00	150	.20	128	20
JULY											
06...	.8	.00	.01	.2	.020	.010	.00	142	.19	127	18
13...	.9	--	--	--	--	--	.00	156	.21	128	21
19...	.9	--	--	--	--	--	.00	150	.20	130	22
26...	1.6	--	--	--	--	--	.00	157	.21	130	20
AUG.											
02...	.9	.00	.02	.3	.090	.010	.00	148	.20	130	22
09...	.9	--	--	--	--	--	.00	156	.21	129	19
16...	.8	--	--	--	--	--	.00	150	.20	129	19
23...	--	--	--	--	--	--	.00	152	.21	126	20
31...	.7	--	--	--	--	--	.00	149	.20	128	20
SEP.											
08...	1.1	.04	.02	.3	.000	.000	.00	153	.21	131	24
13...	.7	--	--	--	--	--	--	149	.20	128	22
20...	.4	--	--	--	--	--	--	159	.22	128	23
27...	.8	--	--	--	--	--	.00	159	.22	131	23

04086040 LAKE MICHIGAN AT MILWAUKEE, WIS.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	CHEM-ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	DIS-SOLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION	IMME-DIATE COLI-FORM (COL. PER 100 ML)	SAMPLE SIZE (GALS)	TOTAL CARBON EX-TRACT-ABLES (UG/L)
APR.											
12-20	--	--	--	--	--	--	--	--	--	409	341
19...	1	1	--	8.3	.5	7	13.4	100	110	--	--
26...	1	3	--	8.3	.7	7	13.5	103	7	--	--
MAY											
03...	1	3	283	8.4	.6	7	12.5	99	11	--	--
10...	--	1	--	8.5	.9	9	13.0	104	7	--	--
17...	--	--	--	8.3	.7	6	12.2	98	110	--	--
24...	1	1	--	8.4	.5	8	12.6	98	67	--	--
JUNE											
01...	1	1	271	8.4	.8	8	12.8	106	24	--	--
07...	1	1	--	8.4	.4	8	12.2	101	150	--	--
14...	1	1	--	8.4	.7	6	12.1	99	45	--	--
21...	1	1	--	8.3	.9	7	11.8	99	25	--	--
28...	1	1	--	8.5	.7	10	12.4	107	25	--	--
JULY											
06...	1	1	--	8.4	.5	7	12.1	100	12	--	--
13...	1	1	--	8.2	.4	7	11.1	91	51	--	--
19...	1	1	--	8.1	1.0	9	10.7	[illegible]	100	--	--
26...	1	1	--	8.1	.8	8	10.7	88	50	--	--
AUG.											
02...	1	1	275	8.0	.5	10	10.5	83	30	--	--
09...	1	1	--	8.2	.7	8	11.1	93	11	--	--
16...	1	2	--	8.2	1.1	10	11.6	105	--	--	--
23...	1	1	--	8.6	.4	9	10.7	106	40	--	--
31...	1	2	--	8.4	.4	10	9.2	94	280	--	--
SEP.											
08...	1	1	271	8.1	.7	6	10.8	86	44	--	--
13...	--	1	--	8.6	.6	[illegible]	9.6	[illegible]	[illegible]	--	--
20...	1	1	--	8.5	.3	7	9.1	95	400	--	--
27...	1	1	--	8.1	.3	7	10.3	84	170	--	--

04086040 LAKE MICHIGAN AT MILWAUKEE, WIS.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	CARBON CHLORO-FORM EX-TRACT ABLES (UG/L)	CARBON ALCOHOL EX-TRACT ABLES (UG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	HEXA-VALENT CHRO-MIUM (CR6) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	TOTAL MERCURY (HG) (UG/L)
APR.											
12-20	47	294	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
MAY											
03...	--	--	.04	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
JUNE											
01...	--	--	.14	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
JULY											
06...	--	--	.05	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
AUG.											
02...	--	--	.05	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--
SEP.											
08...	--	--	.04	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--

ANALYSIS OF ADDITIONAL SAMPLES

DATE	CARBON CHLORO-FORM EX-TRACT ABLES (UG/L)	CARBON ALCOHOL EX-TRACT ABLES (UG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	HEXA-VALENT CHRO-MIUM (CR6) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	TOTAL MERCURY (HG) (UG/L)
OCT.											
07...	--	--	--	4	20	0	1	10	0	.0	.0

WISCONSIN RIVER BASIN
05401020 TENMILE CREEK DITCH 5, NEAR BANCROFT, WIS.

LOCATION.--Lat 44°18'08", long 89°32'59", in NE 1/4 sec.16, T.21 N., R.8 E., Portage County, temperature recorder at gaging station at bridge on country road, 1.3 miles west of U.S. Highway 51, and 1.7 miles southwest of Bancroft.
DRAINAGE AREA.--0.8 sq mi, approximately.
PERIOD OF RECORD.--Water temperatures: June 1965 to September 1971.
EXTREMES, 1970-71.--Water temperatures: Maximum, 16.0°C Sept. 30; minimum, freezing point on many days during December to February.
EXTREMES, 1965-71.--Water temperatures: Maximum, 21.0°C July 1, 1970; minimum, freezing point on many days during winter months in 1965-67, 1970-71.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	12.0	11.0	6.5	6.5	4.0	3.5	1.5	1.0	0.0	0.0	3.0	2.0
2	12.0	11.5	6.5	6.5	4.0	3.5	1.5	1.0	0.0	0.0	3.0	1.5
3	11.5	9.0	6.5	5.5	4.0	4.0	1.0	0.5	0.0	0.0	3.0	1.5
4	12.0	8.0	6.5	6.0	4.0	3.5	2.0	0.0	0.0	0.0	3.0	1.5
5	13.5	12.0	6.5	5.5	3.5	2.0	0.0	0.0	0.0	0.0	4.5	3.0
6	13.5	12.0	6.5	5.5	2.0	1.0	0.0	0.0	0.0	0.0	4.5	4.0
7	13.5	13.0	6.5	5.5	2.0	1.0	0.0	0.0	0.0	0.0	4.0	3.0
8	13.5	13.5	5.5	5.5	3.5	2.0	0.0	0.0	0.0	0.0	3.0	2.0
9	13.5	12.0	7.0	5.5	3.5	3.5	0.0	0.0	0.0	0.0	3.0	2.0
10	12.0	10.0	7.0	6.0	3.5	2.0	0.0	0.0	0.5	0.0	4.0	2.0
11	10.0	8.5	6.5	6.0	2.0	1.5	0.0	0.0	2.0	0.5	5.5	4.0
12	9.5	9.5	6.0	6.0	3.5	2.0	0.0	0.0	2.0	1.5	5.5	4.5
13	9.5	9.5	6.0	5.0	3.5	3.5	0.0	0.0	1.5	1.0	6.0	4.5
14	10.0	8.5	5.0	4.0	3.5	2.0	0.0	0.0	2.0	1.5	6.0	5.0
15	8.5	7.0	4.0	3.5	2.0	1.0	0.0	0.0	3.5	2.0	5.0	4.0
16	7.0	6.0	4.0	3.5	3.0	1.0	0.0	0.0	3.5	2.0	5.0	3.5
17	7.0	5.5	4.5	4.0	3.5	3.0	0.0	0.0	3.5	3.0	5.5	3.0
18	8.0	6.5	5.0	4.5	4.0	3.5	0.0	0.0	4.0	3.0	5.5	4.0
19	8.0	6.5	5.0	4.5	4.5	3.0	0.0	0.0	3.5	2.0	4.0	3.0
20	9.5	7.0	5.0	4.5	3.0	1.0	0.0	0.0	3.5	3.0	5.5	3.0
21	10.5	8.0	4.5	1.5	1.0	0.5	0.0	0.0	4.0	3.5	5.5	4.5
22	10.5	10.5	1.5	1.0	1.0	0.5	0.0	0.0	3.5	1.5	5.5	4.0
23	11.0	10.5	1.0	0.5	1.5	1.0	0.0	0.0	3.5	1.5	4.5	2.0
24	11.5	11.0	1.0	0.5	1.5	0.5	0.0	0.0	3.5	2.0	5.0	2.0
25	11.5	11.0	2.0	1.0	0.5	0.5	0.0	0.0	4.0	2.0	5.5	2.0
26	12.0	11.0	3.5	2.0	0.5	0.0	0.0	0.0	4.5	4.0	6.0	3.5
27	12.0	12.0	3.5	2.0	0.0	0.0	0.0	0.0	4.5	2.0	6.0	5.0
28	12.0	9.0	5.5	3.5	0.0	0.0	0.0	0.0	3.0	2.0	5.5	5.0
29	9.0	8.0	3.5	3.0	0.0	0.0	0.0	0.0	---	---	5.5	4.5
30	8.0	8.0	4.0	3.0	0.0	0.0	0.0	0.0	---	---	6.5	4.5
31	8.0	6.5	---	---	1.0	0.0	0.0	0.0	---	---	6.5	5.0
MONTH	13.5	5.5	7.0	0.5	4.5	0.0	2.0	0.0	4.5	0.0	6.5	1.5

05401020 TENMILE CREEK DITCH 5, NEAR BANCROFT, WIS.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971--Continued

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	6.0	4.5	8.5	6.5	9.5	8.0	14.5	13.5	11.0	11.0	11.0	11.0
2	4.5	3.5	9.0	6.5	8.0	7.0	13.5	13.0	11.0	11.0	12.0	11.0
3	4.5	3.0	9.5	6.0	9.0	7.0	13.5	13.0	11.0	11.0	13.5	12.0
4	6.0	4.0	9.5	6.5	9.0	9.0	13.5	13.5	11.0	11.0	13.5	13.5
5	6.5	4.0	11.0	6.0	10.5	9.0	13.5	13.0	11.0	10.5	13.5	13.5
6	6.5	4.5	10.5	7.0	10.5	10.5	13.5	13.0	10.5	10.5	13.5	13.5
7	7.0	5.0	10.5	8.0	10.5	10.5	13.5	13.5	11.0	10.5	13.5	13.5
8	8.0	5.0	10.5	8.0	11.0	10.0	13.5	13.5	11.0	11.0	---	---
9	8.5	6.0	11.0	8.0	11.0	10.0	13.5	13.0	12.0	11.0	---	---
10	8.0	4.5	11.5	8.5	11.0	10.5	13.0	12.0	12.0	12.0	---	---
11	8.5	5.5	11.5	9.5	13.0	10.5	13.0	12.0	13.0	12.0	---	---
12	8.5	6.5	9.5	6.0	14.0	12.0	13.0	12.0	12.0	12.0	---	---
13	7.0	5.5	10.5	7.0	14.0	13.5	13.0	12.0	12.0	12.0	---	---
14	7.0	5.0	11.0	8.5	14.0	13.0	12.0	12.0	12.0	12.0	---	---
15	8.5	5.0	11.0	9.0	13.5	13.0	13.0	12.0	12.0	12.0	---	---
16	9.0	6.5	11.5	9.0	13.5	12.0	13.5	13.0	12.0	11.5	---	---
17	9.0	8.0	11.5	9.5	14.0	13.0	13.0	12.0	11.5	11.5	---	---
18	9.5	6.5	10.0	9.5	13.5	13.0	12.0	11.5	12.0	11.5	---	---
19	9.0	6.5	10.5	9.5	13.0	13.0	12.0	11.5	12.0	12.0	---	---
20	10.5	6.5	9.5	7.0	13.0	12.0	12.0	12.0	12.0	12.0	---	---
21	10.5	8.0	9.0	6.5	13.0	12.0	13.0	12.0	12.0	12.0	---	---
22	9.0	6.0	8.5	7.0	12.0	11.5	13.5	13.0	12.0	12.0	---	---
23	9.0	6.0	9.5	8.0	12.0	11.5	13.5	13.5	13.0	12.0	---	---
24	8.0	5.0	8.5	7.0	12.0	12.0	13.5	13.0	12.0	11.5	11.5	10.5
25	8.0	5.5	8.5	7.0	12.0	11.5	13.0	13.0	11.5	11.5	11.0	10.0
26	8.5	6.5	7.0	6.0	12.0	11.0	13.0	13.0	11.5	11.0	11.5	10.5
27	8.5	5.0	8.5	5.5	14.5	12.0	13.0	11.5	11.0	11.0	13.5	11.5
28	5.0	4.5	9.0	7.0	15.0	14.0	11.5	11.5	11.0	11.0	15.5	13.5
29	7.0	5.0	10.0	8.0	15.0	14.5	11.5	11.0	11.0	11.0	14.5	11.5
30	8.0	6.0	10.0	8.5	15.0	14.5	11.0	11.0	11.0	11.0	16.0	13.0
31	---	---	10.0	8.5	---	---	11.0	11.0	11.0	11.0	---	---
MONTH	10.5	3.0	11.5	5.5	15.0	7.0	14.5	11.0	13.0	10.5	---	---
YEAR	16.0	0.0										

05409870 NEDERLO CREEK NEAR GAYS MILLS, WIS.

LOCATION.--Lat 43°21'30", long 90°53'49", in NW 1/4 sec.7, T.10 N., R.4 W., Crawford County, on left bank just upstream from bridge on town road, 0.1 mile south of junction of two town roads, and 3.0 miles northwest of Gays Mills.

DRAINAGE AREA.--6.7 sq mi.

PERIOD OF RECORD.--Water temperatures: November 1967 to September 1971.

EXTREMES, 1970-71.--Water temperatures: Maximum, 26.0°C June 12; minimum, freezing point on many days during November to April.

EXTREMES, 1967-71.--Water temperatures: Maximum, 26.5°C June 29, July 2, 1970; minimum, freezing point on many days during winter months.

REMARKS.--Sediment data for this station on page 219.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	14.5	9.0	8.0	6.5	8.5	4.0	1.5	0.0	0.0	0.0	5.5	1.0
2	14.5	10.0	8.0	6.5	5.0	3.5	1.0	0.0	0.0	0.0	3.5	0.5
3	12.0	8.5	7.0	6.0	6.5	4.0	1.0	0.0	0.5	0.0	2.0	0.0
4	13.5	6.5	8.0	6.0	5.5	4.0	0.0	0.0	1.5	0.5	4.0	0.0
5	16.0	9.0	8.0	5.5	4.0	0.5	0.0	0.0	0.5	0.5	6.0	2.0
6	15.0	13.0	8.0	4.5	0.5	0.0	0.0	0.0	0.5	0.0	4.5	1.5
7	15.0	13.0	6.5	4.5	2.0	0.5	0.0	0.0	0.0	0.0	4.5	1.0
8	14.5	14.0	8.0	5.0	4.5	1.5	0.0	0.0	0.0	0.0	4.5	0.0
9	---	14.5	9.0	7.0	3.5	1.5	0.0	0.0	0.0	0.0	4.5	0.0
10	---	---	8.5	6.5	1.5	0.0	0.5	0.0	0.5	0.0	6.0	1.5
11	---	---	9.0	6.5	1.5	0.0	0.5	0.0	1.0	0.5	6.5	1.0
12	---	---	8.0	7.0	4.0	1.5	0.0	0.0	1.0	0.5	6.5	3.0
13	---	---	8.0	5.5	3.5	1.5	1.0	0.0	1.0	0.0	9.0	1.0
14	---	---	5.5	3.5	1.5	0.5	1.0	0.0	1.0	0.5	7.0	3.0
15	---	---	5.0	3.5	1.0	0.0	0.0	0.0	4.0	1.0	5.0	1.5
16	---	---	5.5	3.0	3.5	1.0	0.5	0.0	4.5	0.5	7.0	1.0
17	10.5	5.0	7.0	4.5	4.0	3.0	1.0	0.0	5.0	2.0	8.0	0.5
18	11.0	6.0	6.5	4.0	4.5	4.0	0.0	0.0	3.5	1.5	4.0	1.0
19	10.5	5.5	6.0	3.5	4.5	0.0	0.0	0.0	---	---	6.0	1.0
20	11.0	7.0	6.0	3.5	0.5	0.0	0.5	0.0	4.0	2.0	9.5	4.0
21	11.0	8.0	5.5	3.0	0.0	0.0	1.0	0.5	4.0	1.0	6.0	5.0
22	10.0	8.0	5.5	0.0	2.0	0.0	1.5	0.5	1.0	0.0	8.5	1.5
23	11.0	10.0	0.0	0.0	2.0	0.0	1.0	0.5	5.5	1.0	---	---
24	13.0	10.5	0.5	---	0.0	0.0	1.5	0.5	6.0	1.0	8.5	---
25	13.0	9.0	3.0	0.5	0.0	0.0	3.0	0.5	6.0	0.0	9.5	0.5
26	11.5	11.0	4.5	2.0	0.0	0.0	1.0	0.0	6.0	3.0	8.5	1.0
27	12.0	10.5	3.5	2.0	0.0	0.0	0.0	0.0	3.0	1.5	8.5	4.0
28	10.5	9.0	4.5	0.5	0.0	0.0	0.0	0.0	5.0	0.5	8.0	4.0
29	9.5	8.0	5.5	4.5	0.0	0.0	0.5	0.0	---	---	8.0	2.0
30	8.5	7.0	5.5	4.5	0.0	0.0	0.0	0.0	---	---	10.0	2.0
31	8.0	7.0	---	---	0.5	0.0	0.0	0.0	---	---	11.0	5.0
MONTH	---	---	9.0	0.0	8.5	0.0	3.0	0.0	6.0	0.0	11.0	0.0

WISCONSIN RIVER BASIN

05409870 NEDERLO CREEK NEAR GAYS MILLS, WIS.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971--Continued

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	6.5	3.0	14.5	5.0	18.0	10.5	21.5	14.5	20.5	13.0	18.0	13.5
2	4.5	1.5	15.0	5.5	16.0	11.0	23.0	11.0	21.0	10.5	21.0	13.0
3	9.5	0.0	18.5	4.0	22.0	10.0	22.0	15.0	20.0	10.0	21.0	13.5
4	11.5	0.0	12.0	5.5	24.5	12.0	18.5	16.5	19.5	10.0	21.0	14.5
5	12.0	0.5	18.0	6.5	25.5	14.0	18.5	15.5	19.5	9.5	21.0	15.0
6	13.5	0.5	19.0	8.0	24.0	13.5	20.5	14.5	20.0	10.5	20.5	14.0
7	15.0	2.0	19.0	6.0	18.5	14.5	20.5	15.5	20.5	12.0	20.0	11.5
8	15.5	3.5	19.0	6.5	21.5	11.0	20.5	15.5	20.5	13.5	19.5	13.5
9	15.0	6.0	21.0	6.5	21.5	11.0	20.5	11.0	23.5	14.5	16.0	14.0
10	15.5	3.5	20.0	8.0	19.0	11.0	16.5	12.0	20.5	15.5	19.0	13.0
11	13.5	6.0	16.0	8.0	23.5	13.5	21.5	13.0	20.0	10.5	18.0	11.0
12	10.0	6.0	17.0	5.5	26.0	13.5	19.5	12.0	20.5	9.5	18.5	10.5
13	14.5	5.0	21.0	5.5	25.5	14.5	23.0	14.5	22.0	11.5	19.0	11.0
14	14.5	3.5	21.0	8.0	23.0	13.5	23.0	12.0	19.0	14.0	18.0	10.0
15	16.5	3.5	19.5	9.5	23.5	13.5	21.5	13.5	19.5	10.5	16.0	9.0
16	17.0	6.0	22.0	9.0	24.5	13.5	24.0	12.0	20.5	10.0	14.0	7.0
17	19.0	8.5	16.5	9.0	24.5	14.0	23.5	13.0	20.5	10.0	15.0	8.5
18	16.0	6.5	17.0	12.0	21.5	14.5	20.5	12.0	20.5	10.5	13.0	9.5
19	16.0	9.0	13.0	8.5	23.5	15.0	21.5	13.5	19.0	13.0	10.5	9.0
20	18.5	8.5	18.0	6.5	23.0	16.5	23.5	11.0	21.5	12.0	15.0	8.0
21	11.5	6.0	20.5	6.5	23.5	13.5	24.0	11.5	20.5	13.0	15.5	8.0
22	17.0	4.5	13.0	8.5	22.0	14.5	19.0	14.5	21.5	13.0	15.0	10.0
23	16.0	5.0	18.0	10.5	24.5	14.5	21.5	14.0	16.5	13.5	14.0	9.5
24	16.0	4.5	15.5	11.5	23.0	14.5	23.5	12.0	19.5	12.0	14.5	6.0
25	18.0	5.5	11.5	9.0	20.5	14.5	18.5	12.0	19.5	9.5	10.5	8.5
26	17.0	6.5	13.5	7.0	19.5	15.0	19.0	11.0	14.5	12.0	13.0	10.0
27	9.0	6.0	19.5	5.5	24.5	15.0	18.5	10.0	19.0	9.5	16.0	13.0
28	7.0	5.5	21.0	6.5	24.5	16.5	19.0	11.5	20.0	10.0	18.5	13.5
29	13.0	4.5	22.0	8.0	24.0	17.0	17.0	9.5	20.0	10.0	16.5	10.0
30	11.5	5.0	22.0	9.0	21.5	17.0	17.0	9.5	19.0	11.5	18.5	11.0
31	---	---	19.0	10.5	---	---	21.0	9.0	19.0	13.5	---	---
MONTH	19.0	0.0	22.0	4.0	26.0	10.0	24.0	9.0	23.5	9.5	21.0	6.0
YEAR	26.0	0.0										

05430500 ROCK RIVER AT AFTON, WIS.

LOCATION.--Lat 42°36'33", long 89°04'14", in NE 1/4 sec.28, T.2 N., R.12 E., Rock County, temperature recorder at gaging station on right bank in Afton, 0.3 mile downstream from highway bridge, and 1.1 miles upstream from Bass Creek.

DRAINAGE AREA.--3,300 sq mi, approximately.

PERIOD OF RECORD.--Water temperatures: September 1954 to September 1971.

EXTREMES, 1970-71.--Water temperatures: Maximum, 27.0°C Aug. 22; minimum, freezing point on many days during December to March.

EXTREMES, 1954-71.--Water temperatures: Maximum, 32.0°C July 27-30, Aug. 4, 1955; July 26, 28, 1964; minimum, freezing point on many days during winter months 1954-1968, 1971.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	14.5	13.5	9.5	8.5	4.0	1.5	0.0	0.0	0.0	0.0	1.0	0.0
2	15.0	14.0	8.5	8.0	4.5	2.0	0.0	0.0	0.0	0.0	1.0	0.5
3	14.5	13.5	8.0	8.0	4.5	2.0	0.0	0.0	0.0	0.0	1.0	0.5
4	13.5	12.0	8.0	7.0	4.0	1.5	0.0	0.0	0.0	0.0	1.0	0.5
5	14.5	13.0	7.0	6.5	3.5	1.5	0.0	0.0	0.0	0.0	1.0	0.5
6	14.5	14.0	7.0	6.5	3.5	1.0	0.0	0.0	0.0	0.0	1.0	0.5
7	15.5	14.0	7.0	6.5	3.0	1.0	0.0	0.0	0.0	0.0	1.0	0.5
8	15.5	15.0	6.5	6.5	3.0	1.0	0.0	0.0	0.0	0.0	1.0	0.5
9	15.5	14.5	6.5	6.5	2.0	0.5	0.0	0.0	0.0	0.0	1.0	0.5
10	14.5	13.0	7.0	6.5	2.0	0.5	0.0	0.0	0.0	0.0	1.0	0.5
11	13.5	13.0	7.0	7.0	1.5	0.0	0.0	0.0	0.0	0.0	1.0	0.5
12	13.5	13.0	7.0	7.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
13	13.0	13.0	7.0	7.0	0.5	0.0	0.0	0.0	0.0	0.0	1.0	1.0
14	14.0	13.0	7.0	5.5	0.5	0.0	0.0	0.0	0.0	0.0	2.0	1.0
15	13.5	11.5	5.5	5.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	2.0
16	13.0	10.0	5.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0	2.0	1.0
17	12.0	9.5	4.5	4.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.0
18	12.0	9.5	5.0	4.0	0.5	0.0	0.0	0.0	0.0	0.0	1.5	1.0
19	12.0	9.0	5.0	4.5	0.5	0.0	0.0	0.0	0.0	0.0	1.0	0.5
20	11.5	10.5	5.0	5.0	0.5	0.0	0.0	0.0	0.0	0.0	1.0	0.5
21	11.0	10.5	5.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.0
22	10.5	10.0	5.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	1.5
23	11.0	10.5	3.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.5
24	13.0	10.5	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.5
25	13.0	10.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	1.5	1.5
26	13.5	11.5	0.5	0.0	0.0	0.0	0.0	0.0	1.0	0.0	1.5	1.5
27	13.5	13.0	1.5	0.0	0.0	0.0	0.0	0.0	1.0	0.5	1.5	1.5
28	14.0	12.0	2.0	0.5	0.0	0.0	0.0	0.0	1.0	0.5	1.5	1.5
29	13.0	11.5	3.0	0.5	0.0	0.0	0.0	0.0	---	---	2.0	1.5
30	11.5	10.5	3.5	1.5	0.0	0.0	0.0	0.0	---	---	3.0	2.0
31	10.5	9.5	---	---	0.0	0.0	0.0	0.0	---	---	4.0	3.0
MONTH	15.5	9.0	9.5	0.0	4.5	0.0	0.0	0.0	1.0	0.0	4.0	0.0

05430500 ROCK RIVER AT AFTON, WIS.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	5.0	4.0	11.0	10.0	19.5	16.5	---	---	21.5	19.5	24.0	20.5
2	4.5	3.0	11.0	10.5	18.5	16.0	---	---	23.5	20.0	25.0	21.5
3	3.0	3.0	10.5	9.5	20.5	16.5	---	---	23.0	20.0	25.0	22.0
4	4.0	3.0	10.0	10.0	---	---	---	---	21.5	19.0	25.0	22.0
5	4.5	4.0	10.5	10.0	---	---	---	---	23.0	18.5	24.5	22.0
6	5.0	4.5	13.0	10.5	---	---	---	---	23.5	19.0	24.5	22.0
7	5.5	4.5	13.0	12.0	---	---	---	---	23.0	19.5	26.0	21.0
8	6.5	5.5	14.0	12.0	---	---	---	---	24.0	20.0	26.5	22.0
9	8.0	6.5	14.5	13.0	---	---	---	---	25.0	21.5	25.5	22.0
10	7.0	7.0	15.5	14.0	---	---	---	---	25.0	22.0	25.0	23.0
11	7.0	7.0	16.5	15.0	---	---	---	---	24.5	20.5	24.0	21.0
12	8.0	7.0	16.0	15.0	---	---	---	---	24.5	21.0	23.0	20.5
13	8.0	8.0	15.5	14.0	---	---	---	---	25.5	21.0	24.0	19.5
14	9.5	8.0	16.0	14.0	---	---	25.5	21.5	25.5	22.0	23.5	20.5
15	10.0	9.0	17.0	14.5	---	---	25.5	22.0	26.0	23.0	21.0	18.0
16	10.5	10.0	19.0	16.0	---	---	26.5	22.0	24.5	20.0	20.5	15.0
17	12.0	10.5	18.5	16.5	---	---	26.0	22.0	24.5	20.5	20.0	17.0
18	13.5	12.0	19.0	17.0	---	---	25.5	23.0	24.5	20.5	19.0	16.5
19	13.5	13.0	19.0	16.0	---	---	23.5	21.0	24.0	21.5	16.5	15.0
20	13.5	13.0	17.0	15.0	---	---	24.5	21.0	26.0	21.5	18.0	15.0
21	13.5	12.0	18.5	14.0	---	---	25.0	21.5	26.0	23.0	18.5	14.5
22	12.0	11.0	17.0	14.5	---	---	24.5	21.5	27.0	23.0	19.0	16.0
23	12.0	11.0	16.5	15.0	---	---	24.0	21.5	25.5	21.5	18.0	15.5
24	12.0	11.5	16.5	15.5	---	---	25.0	21.5	25.0	21.0	18.0	14.0
25	12.0	11.5	16.5	14.0	---	---	25.5	22.0	25.0	21.0	16.5	15.0
26	13.0	12.0	14.0	13.5	---	---	24.5	21.5	23.5	20.5	16.0	15.0
27	12.0	11.0	15.0	12.0	---	---	24.5	21.0	22.0	19.0	19.0	16.0
28	11.0	9.0	16.0	13.0	---	---	24.0	20.0	23.5	19.0	21.5	18.0
29	9.0	8.5	17.0	14.5	---	---	23.5	20.0	24.0	19.5	21.5	19.0
30	10.0	9.0	20.0	16.5	---	---	21.5	19.0	24.0	19.5	22.0	18.5
31	---	---	20.0	19.0	---	---	22.0	18.0	23.5	20.5	---	---
MONTH	13.5	3.0	20.0	9.5	---	---	---	---	27.0	18.5	26.5	14.0
YEAR	27.0	0.0										

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)
STREAMS TRIBUTARY TO LAKE SUPERIOR									
04024390 - NEMADJI RIVER NR. SUPERIOR, WIS. (LAT 46 35 37 LONG 092 07 10)									
JAN., 1971 04...	90	.0	17	28	9.3	4.4	1.0	113	0
APR. 21...	1190	8.5	8.4	20	5.2	2.1	1.3	64	0
04026350 - NORTH FISH CREEK NR. ASHLAND, WIS. (LAT 46 34 45 LONG 090 57 55)									
JAN., 1971 05...	71	.0	16	20	6.7	3.4	1.1	99	0
APR. 21...	129	7.0	12	20	5.6	2.8	1.5	88	0
04026560 - TYLER FORKS RIVER NR. MELLEN, WIS. (LAT 46 24 20 LONG 090 34 09)									
JAN., 1971 06...	43	.0	15	12	3.5	2.6	.6	41	0
APR. 20...	851	11.0	6.6	5.0	.6	1.1	.5	11	0
04026600 - MARENGO RIVER AT MARENGO, WIS. (LAT 46 25 34 LONG 090 49 08)									
JAN., 1971 18...	46	--	17	22	7.5	3.6	1.2	100	0
APR. 20...	386	12.5	8.6	8.8	1.8	2.2	.8	28	0
04026900 - POTATO RIVER AT GURNEY, WIS. (LAT 46 27 50 LONG 090 30 25)									
DEC., 1970 16...	62	.0	13	12	2.5	2.3	.6	26	0
APR., 1971 21...	1340	6.5	6.1	5.0	.9	.6	.4	11	0
04027950 - MONTREAL RIVER NR. HURLEY, WIS. (LAT 46 23 15 LONG 090 08 29)									
JAN., 1971 05...	21	.0	12	11	3.1	2.1	.7	36	0
APR. 20...	831	13.0	5.3	6.6	.5	1.4	.8	14	0
04028980 - WEST FORK MONTREAL RIVER NR. MONTREAL, WIS. (LAT 46 21 33 LONG 090 14 42)									
JAN., 1971 06...	29	.0	12	7.8	2.4	1.4	.7	23	0
APR. 20...	855	9.0	5.5	4.0	1.1	.8	.6	7	0
04031200 - SO. BR. PRESQUE ISLE R. AT PRESQUE ISLE, WIS. (LAT 46 14 38 LONG 089 44 40)									
JAN., 1971 28...	14	.0	10	20	4.9	1.6	.9	81	0
APR. 21...	44	8.0	5.6	9.1	1.3	1.4	.8	30	0
ST. CROIX RIVER BASIN									
05335010 - LOON CREEK NR. WEBSTER, WIS. (LAT 45 59 00 LONG 092 13 00)									
OCT., 1970 09...	--	8.0	16	19	4.7	1.8	.6	73	0
WISCONSIN RIVER BASIN									
05405000 - BARABOO RIVER NR. BARABOO, WIS. (LAT 43 28 55 LONG 089 38 00)									
MAR., 1971 27...	477	--	11	35	12	4.8	2.3	140	0
APR. 02...	425	3.5	8.8	22	6.0	3.2	2.9	73	0
05406500 - BLACK EARTH CREEK NR. BLACK EARTH, WIS. (LAT 43 08 30 LONG 089 44 00)									
APR., 1971 02...	51	4.0	16	65	28	4.0	1.6	300	0

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	SULFATE (SO4) (MG/L)	CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)
STREAMS TRIBUTARY TO LAKE SUPERIOR--Continued									
04024390 - NEMADJI RIVER NR. SUPERIOR, WIS. (LAT 46 35 37 LONG 092 07 10)									
JAN., 1971									
04...	20	3.6	.0	2.0	136	142	110	18	226
APR.									
21...	18	2.0	.2	1.1	110	90	72	20	130
04026350 - NORTH FISH CREEK NR. ASHLAND, WIS. (LAT 46 34 45 LONG 090 57 55)									
JAN., 1971									
05...	4.7	2.3	.0	.2	101	104	78	0	166
APR.									
21...	8.8	1.0	.1	.7	101	96	73	1	152
04026560 - TYLER FORKS RIVER NR. MELLEN, WIS. (LAT 46 24 20 LONG 090 34 09)									
JAN., 1971									
06...	12	2.4	.0	1.4	74	70	44	10	98
APR.									
20...	7.6	.5	.2	.7	47	28	15	6	38
04026600 - MARENGO RIVER AT MARENGO, WIS. (LAT 46 25 34 LONG 090 49 08)									
JAN., 1971									
18...	7.5	2.2	.0	4.1	113	114	96	4	180
APR.									
20...	10	1.0	.2	1.5	59	49	30	7	67
04026900 - POTATO RIVER AT GURNEY, WIS. (LAT 46 27 50 LONG 090 30 25)									
DEC., 1970									
16...	17	5.0	.2	1.9	76	68	40	18	93
APR., 1971									
21...	10	1.5	.2	.6	39	31	16	7	36
04027950 - MONTREAL RIVER NR. HURLEY, WIS. (LAT 46 23 15 LONG 090 09 29)									
JAN., 1971									
05...	12	2.9	.3	1.6	79	64	40	10	91
APR.									
20...	9.2	2.0	.2	.9	43	34	18	6	43
04028980 - WEST FORK MONTREAL RIVER NR. MONTREAL, WIS. (LAT 46 21 33 LONG 090 14 42)									
JAN., 1971									
06...	10	1.4	.2	1.9	76	49	30	15	63
APR.									
20...	12	.5	.5	.6	46	29	14	8	30
04031200 - SO. BR. PRESQUE ISLE R. AT PRESQUE ISLE, WIS. (LAT 46 14 38 LONG 089 44 40)									
JAN., 1971									
28...	8.0	1.0	.2	.1	83	87	70	0	138
APR.									
21...	5.6	1.0	.1	.8	51	41	28	4	63
ST. CROIX RIVER BASIN--Continued									
05335010 - LOON CREEK NR. WEBSTER, WIS. (LAT 45 59 00 LONG 092 13 00)									
OCT., 1970									
09...	7.6	1.0	.1	.7	91	88	67	7	130
WISCONSIN RIVER BASIN--Continued									
05405000 - BARABOO RIVER NR. BARABOO, WIS. (LAT 43 28 55 LONG 089 38 00)									
MAR., 1971									
27...	18	8.0	.2	8.3	168	169	140	26	289
APR.									
02...	16	6.0	.2	10	108	111	80	20	183
05406500 - BLACK EARTH CREEK NR. BLACK EARTH, WIS. (LAT 43 08 30 LONG 089 44 00)									
APR., 1971									
02...	19	6.0	.4	13	290	301	280	34	509

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	PH (UNITS)	COLOR (PLATINUM-COBALT UNITS)	IRON (FE) (UG/L)	MANGANESE (MN) (UG/L)	DISSOLVED SOLIDS (TONS PER DAY)	DISSOLVED SOLIDS (TONS PER AC-FT)	ALKALINITY AS CACO3 (MG/L)	PERCENT SODIUM	SODIUM ADSORPTION RATIO
STREAMS TRIBUTARY TO LAKE SUPERIOR--Continued									
04024390 - NEMADJI RIVER NR. SUPERIOR, WIS. (LAT 46 35 37 LONG 092 07 10)									
JAN., 1971 04...	7.7	60	740	33	33.0	.18	93	8	.2
APR. 21...	7.3	160	2300	41	353	.15	52	6	.1
04026350 - NORTH FISH CREEK NR. ASHLAND, WIS. (LAT 46 34 45 LONG 090 57 55)									
JAN., 1971 05...	8.0	5	110	0	19.4	.14	81	9	.2
APR. 21...	7.6	60	340	28	35.2	.14	72	8	.1
04026560 - TYLER FORKS RIVER NR. MELLEN, WIS. (LAT 46 24 20 LONG 090 34 09)									
JAN., 1971 06...	7.0	65	480	16	8.59	.10	34	11	.2
APR. 20...	6.7	100	220	65	108	.06	9	13	.1
04026600 - MARENGO RIVER AT MARENGO, WIS. (LAT 46 25 34 LONG 090 49 08)									
JAN., 1971 18...	7.6	18	420	9	14.0	.15	82	8	.2
APR. 20...	7.0	80	480	96	61.5	.08	23	14	.2
04026900 - POTATO RIVER AT GURNEY, WIS. (LAT 46 27 50 LONG 090 30 25)									
DEC., 1970 16...	7.3	40	240	0	12.7	.10	21	11	.2
APR., 1971 21...	6.5	40	190	36	146	.05	9	9	.1
04027950 - MONTREAL RIVER NR. HURLEY, WIS. (LAT 46 23 15 LONG 090 08 29)									
JAN., 1971 05...	6.6	80	650	24	4.48	.11	30	10	.1
APR. 20...	6.3	80	200	59	46.5	.06	11	13	.1
04028980 - WEST FORK MONTREAL RIVER NR. MONTREAL, WIS. (LAT 46 21 33 LONG 090 14 42)									
JAN., 1971 06...	6.8	80	670	10	5.95	.10	19	9	.1
APR. 20...	6.0	40	230	70	106	.06	6	11	.1
04031200 - SO. BR. PRESQUE ISLE R. AT PRESQUE ISLE, WIS. (LAT 46 14 38 LONG 089 44 40)									
JAN., 1971 28...	7.4	20	210	54	3.14	.11	66	5	.1
APR. 21...	6.8	80	--	--	6.06	.07	25	9	.1
ST. CROIX RIVER BASIN--Continued									
05335010 - LOON CREEK NR. WEBSTER, WIS. (LAT 45 59 00 LONG 092 13 00)									
OCT., 1970 09...	7.2	30	350	100	--	.12	60	5	.1
WISCONSIN RIVER BASIN--Continued									
05405000 - BARABOO RIVER NR. BARABOO, WIS. (LAT 43 28 55 LONG 089 38 00)									
MAR., 1971 27...	7.1	10	440	150	216	.23	115	7	.2
APR. 02...	7.0	40	--	--	124	.15	60	8	.2
05406500 - BLACK EARTH CREEK NR. BLACK EARTH, WIS. (LAT 43 08 30 LONG 089 44 00)									
APR., 1971 02...	8.0	10	100	92	39.9	.39	246	3	.1

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DISCHARGE (CFS)	TEMPERATURE (DEG C)	SILICA (SIO2) (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)
WISCONSIN RIVER BASIN--Continued									
05407000 - WISCONSIN RIVER AT MUSCODA, WIS. (LAT 43 11 54 LONG 090 26 26)									
APR., 1971									
02...	15500	1.0	11	22	9.7	7.1	1.6	88	0
17...	36900	10.5	11	17	6.6	5.8	1.1	58	0
05408000 - KICKAPOO RIVER AT LA FARGE, WIS. (LAT 43 34 27 LONG 090 38 35)									
APR., 1971									
01...	1200	--	6.8	23	11	2.0	3.2	105	0
05410500 - KICKAPOO RIVER NR. STEUBEN, WIS. (LAT 43 11 27 LONG 090 52 28)									
APR., 1971									
02...	1080	3.5	9.4	37	14	2.4	2.8	165	0

DATE	SULFATE (SO4) (MG/L)	CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)
WISCONSIN RIVER BASIN--Continued									
05407000 - WISCONSIN RIVER AT MUSCODA, WIS. (LAT 43 11 54 LONG 090 26 26)									
APR., 1971									
02...	26	6.0	.2	4.9	145	135	95	23	225
17...	24	6.0	.2	2.0	110	102	70	22	167
05408000 - KICKAPOO RIVER AT LA FARGE, WIS. (LAT 43 34 27 LONG 090 38 35)									
APR., 1971									
01...	14	4.0	.0	12	123	128	100	14	217
05410500 - KICKAPOO RIVER NR. STEUBEN, WIS. (LAT 43 11 27 LONG 090 52 28)									
APR., 1971									
02...	16	3.0	.2	8.7	175	175	150	15	306

DATE	PH (UNITS)	COLOR (PLATINUM-COBALT UNITS)	IRON (FE) (UG/L)	MANGANESE (MN) (UG/L)	DISSOLVED SOLIDS (TONS PER DAY)	DISSOLVED SOLIDS (TONS PER AC-FT)	ALKALINITY AS CACO3 (MG/L)	PERCENT SODIUM	SODIUM ADSORPTION RATIO
WISCONSIN RIVER BASIN--Continued									
05407000 - WISCONSIN RIVER AT MUSCODA, WIS. (LAT 43 11 54 LONG 090 26 26)									
APR., 1971									
02...	7.1	50	1100	180	6070	.20	72	14	.3
17...	7.0	80	780	44	11000	.15	48	15	.3
05408000 - KICKAPOO RIVER AT LA FARGE, WIS. (LAT 43 34 27 LONG 090 38 35)									
APR., 1971									
01...	7.1	32	410	99	399	.17	86	4	.1
05410500 - KICKAPOO RIVER NR. STEUBEN, WIS. (LAT 43 11 27 LONG 090 52 28)									
APR., 1971									
02...	7.4	30	320	94	510	.24	135	3	.1

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	DIS-SOLVED ARSENIC (AS) (UG/L)	TOTAL MAN-GANESE (MN) (UG/L)	MAN-GANESE (MN) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
STREAMS TRIBUTARY TO LAKE SUPERIOR							
04026370 - LAKE SUPERIOR AT ASHLAND, WIS. (LAT 46 36 21 LONG 090 52 31)							
OCT., 1970							
15...	--	10.5	0	--	--	14	90
STREAMS TRIBUTARY TO LAKE MICHIGAN							
04067650 - MENOMINEE RIVER AT MARINETTE, WIS. (LAT 45 05 46 LONG 087 35 56)							
OCT., 1970							
09...	1650	15.0	10	95	95	4	0
04071910 - LITTLE SUAMICO RIVER NR. SUAMICO, WIS. (LAT 44 42 41 LONG 088 03 00)							
OCT., 1970							
08...	--	--	10	65	--	--	--
04072000 - SUAMICO RIVER AT SUAMICO, WIS. (LAT 44 37 55 LONG 088 04 00)							
OCT., 1970							
08...	--	--	0	45	--	--	--
04072218 - DUCK CREEK AT GREEN BAY, WIS. (LAT 44 33 30 LONG 088 06 18)							
OCT., 1970							
08...	--	--	0	140	--	--	--
04084410 - LAKE WINNEBAGO AT NEENAH, WIS. (LAT 44 10 38 LONG 088 26 24)							
OCT., 1970							
08...	--	15.0	10	--	--	10	20
04085085 - FOX RIVER AT GREEN BAY, WIS. (LAT 44 31 05 LONG 088 00 58)							
OCT., 1970							
08...	1850	16.0	10	74	74	3	10
04086004 - SHEBOYGAN RIVER AT SHEBOYGAN, WIS. (LAT 43 44 40 LONG 087 42 46)							
OCT., 1970							
08...	46	--	0	--	--	3	30
04087170 - MILWAUKEE RIVER AT MILWAUKEE, WIS. (LAT 43 01 33 LONG 087 53 50)							
OCT., 1970							
07...	165	16.0	0	--	--	2	30
CHIPPEWA RIVER BASIN							
05360490 - FLAMBEAU RIVER NR. LADYSMITH, WIS. (LAT 45 24 40 LONG 091 13 04)							
OCT., 1970							
14...	840	12.0	0	--	--	5	60
05367050 - CHIPPEWA RIVER NR. EAU CLAIRE, WIS. (LAT 44 45 38 LONG 091 40 30)							
OCT., 1970							
14...	3300	11.5	0	--	--	5	90
BLACK RIVER BASIN							
05380973 - BLACK RIVER AT NEILLSVILLE, WIS. (LAT 44 34 14 LONG 090 35 50)							
OCT., 1970							
14...	148	10.5	10	--	--	9	90
WISCONSIN RIVER BASIN							
05391000 - WISCONSIN RIVER NR. LAKE TOMAHAWK, WIS. (LAT 45 50 00 LONG 089 32 50)							
OCT., 1970							
15...	421	10.0	10	--	--	6	110

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-SOLVED COBALT (CO) (UG/L)	HEXA-VALENT CHRO-MIUM (CR6) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	TOTAL MERCURY (HG) (UG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)
STREAMS TRIBUTARY TO LAKE SUPERIOR--Continued						
04026370 - LAKE SUPERIOR AT ASHLAND, WIS. (LAT 46 36 21 LONG 090 52 31)						
OCT., 1970 15...	0	1	0	.0	.0	--
STREAMS TRIBUTARY TO LAKE MICHIGAN--Continued						
04067650 - MENOMINEE RIVER AT MARINETTE, WIS. (LAT 45 05 46 LONG 087 35 56)						
OCT., 1970 09...	0	1	0	.0	<.5	250
04071910 - LITTLE SUAMICO RIVER NR. SUAMICO, WIS. (LAT 44 42 41 LONG 088 03 00)						
OCT., 1970 08...	--	--	--	--	--	--
04072000 - SUAMICO RIVER AT SUAMICO, WIS. (LAT 44 37 55 LONG 088 04 00)						
OCT., 1970 08...	--	--	--	--	--	--
04072218 - DUCK CREEK AT GREEN BAY, WIS. (LAT 44 33 30 LONG 088 06 18)						
OCT., 1970 08...	--	--	--	--	--	--
04084410 - LAKE WINNEBAGO AT NEENAH, WIS. (LAT 44 10 38 LONG 088 26 24)						
OCT., 1970 08...	0	1	0	.2	.2	--
04085085 - FOX RIVER AT GREEN BAY, WIS. (LAT 44 31 05 LONG 088 00 58)						
OCT., 1970 08...	0	0	0	.0	.0	420
04086004 - SHEBOYGAN RIVER AT SHEBOYGAN, WIS. (LAT 43 44 40 LONG 087 42 46)						
OCT., 1970 08...	0	1	0	1.0	1.1	--
04087170 - MILWAUKEE RIVER AT MILWAUKEE, WIS. (LAT 43 01 33 LONG 087 53 50)						
OCT., 1970 07...	0	1	0	.0	.0	--
CHIPPEWA RIVER BASIN--Continued						
05360490 - FLAMBEAU RIVER NR. LADYSMITH, WIS. (LAT 45 24 40 LONG 091 13 04)						
OCT., 1970 14...	0	1	1	.0	.0	--
05367050 - CHIPPEWA RIVER NR. EAU CLAIRE, WIS. (LAT 44 45 36 LONG 091 40 30)						
OCT., 1970 14...	0	1	0	.1	.1	--
BLACK RIVER BASIN--Continued						
05380973 - BLACK RIVER AT NEILLSVILLE, WIS. (LAT 44 34 14 LONG 090 35 50)						
OCT., 1970 14...	0	1	[illegible]	.1	.1	--
WISCONSIN RIVER BASIN--Continued						
05391000 - WISCONSIN RIVER NR. LAKE TOMAHAWK, WIS. (LAT 45 50 00 LONG 089 32 50)						
OCT., 1970 15...	0	1	0	.1	.1	--

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	DIS-SOLVED ARSENIC (AS) (UG/L)	TOTAL MAN-GANESE (MN) (UG/L)	MAN-GANESE (MN) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
WISCONSIN RIVER BASIN--Continued							
05400970 - WISCONSIN RIVER AT NEKOOSA, WIS. (LAT 44 18 52 LONG 089 53 18)							
OCT., 1970							
13...	1960	14.0	0	--	--	6	0
05405980 - UNNAMED TR TO WISCONSIN R NR BARABOO WISCONSIN (LAT 43 19 49 LONG 089 45 02)							
OCT., 1970							
09...	50	--	0	--	--	3	50
GALENA RIVER BASIN							
05415000 - GALENA RIVER AT BUNCOMBE, WIS. (LAT 42 30 49 LONG 090 22 40)							
OCT., 1970							
09...	56	--	0	--	--	3	120
ROCK RIVER BASIN							
05430500 - ROCK RIVER AT AFTON, WIS. (LAT 42 36 33 LONG 089 04 14)							
OCT., 1970							
07...	824	16.0	0	--	--	2	30

DATE	DIS-SOLVED COBALT (CO) (UG/L)	HEXA-VALENT CHRO-MIUM (CR6) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	TOTAL MERCURY (HG) (UG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)
WISCONSIN RIVER BASIN--Continued						
05400970 - WISCONSIN RIVER AT NEKOOSA, WIS. (LAT 44 18 52 LONG 089 53 18)						
OCT., 1970						
13...	0	1	1	.0	.0	--
05405980 - UNNAMED TR TO WISCONSIN R NR BARABOO WISCONSIN (LAT 43 19 49 LONG 089 45 02)						
OCT., 1970						
09...	0	0	0	.1	.1	--
GALENA RIVER BASIN--Continued						
05415000 - GALENA RIVER AT BUNCOMBE, WIS. (LAT 42 30 49 LONG 090 22 40)						
OCT., 1970						
09...	0	1	0	.1	.1	--
ROCK RIVER BASIN--Continued						
05430500 - ROCK RIVER AT AFTON, WIS. (LAT 42 36 33 LONG 089 04 14)						
OCT., 1970						
07...	0	1	0	.1	.1	--

MISCELLANEOUS ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

The following table contains a series of periodic specific conductance measurements obtained as part of water-resources investigations at stream gaging stations in Wisconsin. The purpose of these measurements is to determine the range in specific conductance under various streamflow conditions.

Specific conductance (micromhos at 25°C), October 1970 to September 1971

Date	Time	Water temperature (°C)	Discharge (cfs)	Specific conductance	Date	Time	Water temperature (°C)	Discharge (cfs)	Specific conductance
STREAMS TRIBUTARY TO LAKE SUPERIOR									
04025500 BOIS BRULE RIVER AT BRULE, WIS (LAT 46 32 16 LONG 091 35 43)									
Oct. 8, 1970	0950	8.0	259	140	May 21, 1971	1300	9.0	251	110
Nov. 16, 1970	1500	2.5	203	145	July 7, 1971	1430	18.5	135	140
Jan. 4, 1971	1800	0.0	145	130	Aug. 17, 1971	1145	17.0	124	120
Feb. 22, 1971	1140	0.0	149	135					
04026005 BOIS BRULE RIVER NEAR LAKE SUPERIOR, WIS (LAT 46 42 20 LONG 091 36 07)									
Oct. 8, 1970	-	8.5	518	160	Aug. 17, 1971	-	20.0	160	140
July 21, 1971	-	18.5	150	150					
04027000 BAD RIVER NEAR ODANAH, WIS (LAT 46 29 15 LONG 090 41 45)									
Oct. 8, 1970	1600	12.5	186	110	Apr. 14, 1971	1030	4.0	7,480	60
Nov. 17, 1970	1530	2.0	625	160	May 24, 1971	1630	8.5	1,800	80
Jan. 6, 1971	1430	0.0	236	110	July 8, 1971	0900	-	180	-
Feb. 25, 1971	1230	0.0	228	100	Aug. 19, 1971	1600	25.0	406	100
04027500 WHITE RIVER NEAR ASHLAND, WIS (LAT 46 29 50 LONG 090 54 15)									
Oct. 8, 1970	1220	10.5	157	200	Feb. 25, 1971	0700	0.0	282	195
Nov. 17, 1970	0800	1.0	324	170	July 8, 1971	1100	21.0	152	190
Jan. 5, 1971	1100	0.0	268	200	Aug. 19, 1971	1020	21.5	309	190
STREAMS TRIBUTARY TO LAKE MICHIGAN									
04064505 PINE RIVER NEAR FLORENCE, WIS (LAT 45 49 40 LONG 088 14 55)									
Oct. 2, 1970	0840	10.0	320	170	Apr. 12, 1971	1600	1.0	2,400	-
Nov. 12, 1970	0950	4.0	601	110	Apr. 13, 1971	1710	1.0	2,660	-
Dec. 16, 1970	0935	0.5	324	140	June 1, 1971	1350	13.5	644	120
Jan. 21, 1971	1445	0.0	348	200	July 7, 1971	1335	22.0	333	250
Feb. 17, 1971	0945	0.0	208	180	Aug. 13, 1971	0855	16.5	58.2	260
Mar. 23, 1971	1035	0.0	404	140	Sept. 9, 1971	-	19.5	334	240
04066000 MENOMINEE RIVER NEAR PEMBINE, WIS (LAT 45 35 24 LONG 087 46 34)									
Oct. 1, 1970	1445	10.0	1,330	280	June 2, 1971	1500	14.5	4,140	180
Apr. 14, 1971	1210	1.0	14,580	-					
04069500 PESHTIGO RIVER AT PESHTIGO, WIS (LAT 45 02 49 LONG 087 44 40)									
Oct. 29, 1970	1515	4.0	2,920	200	Apr. 10, 1971	1605	4.0	4,920	200
Dec. 29, 1970	1300	0.0	423	300	June 10, 1971	1020	17.0	862	180
Feb. 3, 1971	1315	0.0	415	310	July 21, 1971	1050	23.5	188	260
Feb. 25, 1971	1230	1.0	581	-	Sept. 1, 1971	1430	19.5	527	250
Mar. 30, 1971	0930	1.0	1,080	-					
04071000 OCONTO RIVER NEAR GILLETT, WIS (LAT 44 51 53 LONG 088 18 00)									
Oct. 27, 1970	1230	10.0	480	280	Apr. 11, 1971	1350	4.0	2,490	190
Dec. 29, 1970	1620	0.0	587	-	May 28, 1971	1135	13.0	1,330	120
Jan. 27, 1971	1145	0.0	341	250	June 28, 1971	1115	23.0	503	220
Feb. 24, 1971	1235	0.0	406	230	July 28, 1971	1140	19.5	373	270
Mar. 29, 1971	1350	0.0	563	300	Aug. 27, 1971	1205	18.5	397	300
Apr. 10, 1971	1230	1.0	2,680	190	Sept.27, 1971	1110	12.0	400	300
04072750 LAWRENCE CREEK NEAR WESTFIELD, WIS (LAT 43 53 52 LONG 089 34 43)									
Nov. 18, 1970	1245	6.5	16.3	330	May 4, 1971	1015	7.0	15.9	360
Jan. 13, 1971	1500	3.0	15.9	400	June 11, 1971	1100	13.5	17.2	320
Feb. 17, 1971	1530	9.5	17	340	July 28, 1971	0950	12.0	16.9	300
Mar. 26, 1971	1145	6.0	16.1	380	Sept. 2, 1971	1210	14.5	17.6	350

MISCELLANEOUS ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

Date	Time	Water temperature (°C)	Discharge (cfs)	Specific conductance	Date	Time	Water temperature (°C)	Discharge (cfs)	Specific conductance
STREAMS TRIBUTARY TO LAKE MICHIGAN--Continued									
04073050 GRAND RIVER NEAR KINGSTON, WIS (LAT 43 41 09 LONG 089 05 09)									
Nov. 18, 1970	1415	5.0	12	840	May 13, 1971	1415	16.5	50.3	650
Dec. 29, 1970	1430	3.0	9.4	750	June 15, 1971	1300	23.5	28.4	700
Feb. 26, 1971	1130	0.5	25.4	770	July 28, 1971	1145	18.5	15.9	840
Mar. 16, 1971	1530	1.0	214	480	Aug. 27, 1971	1400	20.0	13.3	660
Mar. 17, 1971	1200	1.0	-	480	Sept.30, 1971	1700	21.5	12.1	610
Apr. 14, 1971	1700	11.0	124	-					
04073500 FOX RIVER AT BERLIN, WIS (LAT 43 57 14 LONG 088 57 08)									
Oct. 14, 1970	1100	12.0	641	380	Apr. 14, 1971	1245	9.5	2,790	300
Dec. 4, 1970	1035	1.5	1,060	380	June 3, 1971	1225	20	1,010	350
Jan. 13, 1971	1020	0.0	524	380	July 29, 1971	1400	21.5	513	330
Feb. 16, 1971	1330	0.0	538	420	Sept. 9, 1971	1100	23	407	330
04074950 WOLF RIVER AT LANGLADE, WIS (LAT 45 11 24 LONG 088 44 00)									
Oct. 13, 1970	1330	10.0	317	350	Mar. 9, 1971	1500	0.0	365	180
Oct. 29, 1970	1500	6.0	970	280	June 9, 1971	1300	18.0	477	170
Dec. 15, 1970	1100	0.0	402	300	July 15, 1971	1230	21.5	251	210
Feb. 11, 1971	1300	0.0	340	280	Sept.10, 1971	1300	19.0	240	200
04075200 EVERGREEN CREEK NEAR LANGLADE, WIS (LAT 45 10 11 LONG 088 48 12)									
Oct. 13, 1970	1230	8.0	9.48	320	Apr. 15, 1971	1140	2.0	16.5	260
Dec. 14, 1970	1240	0.0	9.48	320	June 9, 1971	1130	12.0	12.2	290
Feb. 11, 1971	1100	0.0	8.03	320	July 15, 1971	1150	16.0	10.5	320
Mar. 9, 1971	1300	0.0	12.2	300	Sept.10, 1971	1400	16.0	11.6	300
04077000 WOLF RIVER AT KESHENA FALLS, WIS (LAT 44 53 28 LONG 088 39 18)									
Oct. 27, 1970	1500	10.0	745	250	June 11, 1971	1000	17.0	819	220
Dec. 30, 1971	1500	0.0	674	-	Aug. 22, 1971	1000	21.0	657	230
Feb. 22, 1971	1400	0.0	550	280	Sept. 2, 1971	0930	18.5	440	280
Apr. 13, 1971	1330	4.0	2,520	150					
04078500 EMBARRASS RIVER NEAR EMBARRASS, WIS (LAT 44 43 29 LONG 088 44 10)									
Oct. 2, 1970	1325	9.0	135	250	Apr. 9, 1971	1030	1.0	1,610	-
Oct. 28, 1970	1245	11.0	747	470	Apr. 11, 1971	1000	2.0	2,560	100
Jan. 12, 1971	1115	0.0	164	200	June 10, 1971	1615	19.5	338	300
Feb. 24, 1971	1540	0.0	167	380	July 22, 1971	1215	23.5	239	365
Mar. 31, 1971	0930	1.0	310	380	Sept. 2, 1971	1405	22.0	123	400
04079000 WOLF RIVER AT NEW LONDON, WIS (LAT 44 23 32 LONG 088 44 25)									
Jan. 12, 1971	1600	0.0	954	220	Apr. 11, 1971	1355	8.0	8,050	260
Feb. 26, 1971	1110	0.0	995	-	July 20, 1971	1535	25.0	981	330
Mar. 30, 1971	1420	0.0	2,000	400	Sept. 8, 1971	1310	23.0	1,340	280
04080950 EMMONS CREEK NEAR RURAL, WIS (LAT 44 18 55 LONG 089 11 34)									
Oct. 20, 1970	1200	7.5	24.3	420	May 18, 1971	1245	12.0	28.7	380
Nov. 17, 1970	1445	5.5	24.3	370	June 23, 1971	1125	13.0	27.0	370
Dec. 15, 1970	1520	0.0	29.0	360	July 20, 1971	1200	13.0	23.7	370
Feb. 25, 1971	1440	4.0	25.8	380	Aug. 23, 1971	1530	14.5	24.6	380
Mar. 23, 1971	1115	1.5	25.5	370	Sept.20, 1971	1050	9.0	26.2	390
Apr. 27, 1971	1000	6.5	27.7	370					
04085200 KEWAUNEE RIVER NEAR KEWAUNEE, WIS (LAT 44 27 30 LONG 087 33 23)									
Oct. 21, 1970	1355	11.0	13.0	630	Apr. 26, 1971	1405	10.0	80.3	580
Nov. 16, 1970	1335	3.0	26.7	680	May 17, 1971	1500	16.0	75.0	600
Dec. 17, 1970	1245	0.0	37.5	670	June 21, 1971	1315	22.5	45.0	560
Jan. 25, 1971	1515	0.0	17.6	660	July 21, 1971	1345	24.0	12.3	580
Feb. 24, 1971	1400	0.0	20.5	640	Aug. 24, 1971	1205	17.0	12.3	580
Mar. 22, 1971	1430	0.0	282	460	Sept.23, 1971	1415	13.5	11.8	590
Apr. 1, 1971	1625	0.0	1,550	320					

MISCELLANEOUS ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

Date	Time	Water temperature (°C)	Discharge (cfs)	Specific conductance	Date	Time	Water temperature (°C)	Discharge (cfs)	Specific conductance
STREAMS TRIBUTARY TO LAKE MICHIGAN--Continued									
04086000 SHEBOYGAN RIVER AT SHEBOYGAN, WIS (LAT 43 44 25 LONG 087 45 37)									
Oct. 7, 1970	1220	17.0	42.8	750	May 12, 1971	1200	13.0	194	560
Nov. 19, 1970	0950	4.0	165	700	June 16, 1971	1410	26.5	74.2	220
Dec. 30, 1970	1330	0.0	91.2	900	July 27, 1971	1550	25.0	27.2	660
Feb. 13, 1971	0925	0.0	68.4	-	Aug. 26, 1971	1140	19.5	47.0	600
Apr. 2, 1971	0925	0.0	2,440	420					
04086150 MILWAUKEE RIVER AT KEWASKUM, WIS (LAT 43 31 02 LONG 088 13 24)									
Oct. 7, 1970	1750	18.0	11.0	750	May 11, 1971	1545	11.5	67	600
Nov. 18, 1970	1440	4.5	46	750	June 17, 1971	0915	24.0	20	610
Dec. 31, 1970	1000	0.0	28	800	July 23, 1971	1835	23.5	7.4	680
Apr. 9, 1971	1600	10.0	492	450	Aug. 26, 1971	0920	19.5	9.8	675
04086200 EAST BRANCH MILWAUKEE RIVER NEAR NEW FANE, WIS (LAT 43 33 01 LONG 088 11 18)									
Oct. 7, 1970	1615	18.5	6.1	430	Apr. 9, 1971	1205	6.0	161	360
Nov. 18, 1970	1540	5.0	18	490	May 12, 1971	0930	10.0	31	440
Dec. 31, 1970	1230	0.0	13	530	June 16, 1971	1735	25.5	11	440
Feb. 25, 1971	1500	0.0	27	500	July 23, 1971	1705	23.5	4.4	490
Mar. 31, 1971	1600	0.0	83	460	Aug. 25, 1971	1605	21.0	7.4	420
04086340 NORTH BRANCH MILWAUKEE RIVER NEAR FILLMORE, WIS (LAT 43 28 58 LONG 088 03 39)									
Oct. 8, 1970	1030	16.5	25	690	May 11, 1971	1415	16.5	68	600
Nov. 18, 1970	1150	4.0	53	-	June 17, 1971	1110	22.5	33	610
Jan. 6, 1971	1530	0.0	40	640	July 23, 1971	1550	21.5	15	610
Apr. 2, 1971	1755	0.5	666	480	Aug. 25, 1971	1405	20.0	27	560
Apr. 9, 1971	1805	10.5	449	470					
04086360 MILWAUKEE RIVER AT WAUBEKA, WIS (LAT 43 28 22 LONG 087 59 23)									
Oct. 8, 1970	1240	17.0	65	700	May 11, 1971	1245	16.0	149	600
Nov. 18, 1970	1015	4.0	160	730	June 17, 1971	1440	25.0	96	600
Jan. 7, 1971	1230	0.0	109	420	July 23, 1971	1405	23.0	40	660
Feb. 13, 1971	1255	0.0	85	650	Aug. 25, 1971	1220	19.5	71	650
Apr. 8, 1971	1630	8.0	1,240	490					
04087000 MILWAUKEE RIVER AT MILWAUKEE, WIS (LAT 43 06 00 LONG 087 54 32)									
Nov. 17, 1970	1440	5.0	272	800	May 11, 1971	0815	14.5	332	650
Jan. 8, 1971	1530	0.0	202	900	June 18, 1971	1145	25.0	201	625
Feb. 25, 1971	1015	1.0	848	740	July 24, 1971	1005	23.0	61	700
Mar. 30, 1971	1450	3.0	1,620	690	Aug. 24, 1971	1510	23.5	108	540
04087120 MENOMONEE RIVER AT WAUWATOSA, WIS (LAT 43 02 44 LONG 087 59 59)									
Nov. 17, 1970	1200	5.5	40	1,200	June 18, 1971	1600	23.5	21	960
Jan. 8, 1971	1100	0.0	45	1,600	July 23, 1971	1025	21.5	19	1,100
Feb. 24, 1971	1035	0.0	275	1,300	Aug. 25, 1971	0845	19.0	53	650
Mar. 30, 1971	1300	4.0	421	960	Sept.17, 1971	1325	17.0	12	1,000
May 10, 1971	1450	17.0	43	1,025					
04087204 OAK CREEK AT SOUTH MILWAUKEE, WIS (LAT 42 55 30 LONG 087 52 12)									
Nov. 9, 1970	1500	9.0	14.2	1,020	June 1, 1971	1515	16.0	4.79	810
Dec. 18, 1970	1015	1.5	18.8	2,200	July 7, 1971	1605	24.5	1.33	1,030
Jan. 13, 1971	1300	0.0	5.63	1,700	July 28, 1971	1039	18.0	2.67	1,190
Jan. 25, 1971	1510	0.0	4.23	2,100	Aug. 18, 1971	1550	26.0	1.64	920
Mar. 10, 1971	0930	1.0	15.5	1,650	Sept. 9, 1971	0845	19.5	.920	950
Apr. 21, 1971	1500	11.0	11.6	1,350					
04087220 ROOT RIVER NEAR FRANKLIN, WIS (LAT 42 52 25 LONG 087 59 45)									
Nov. 4, 1970	0935	7.5	73.2	970	June 2, 1971	0955	14.0	28.2	900
Nov. 9, 1970	1155	8.0	21.3	1,030	July 9, 1971	1400	23.0	26.1	1,030
Dec. 17, 1970	1605	2.5	21.7	1,620	July 28, 1971	1305	20.5	1.76	1,170
Jan. 26, 1971	1135	0.0	10.8	1,200	Aug. 19, 1971	1340	21.5	1.01	640
Mar. 10, 1971	1140	2.0	43.4	1,300	Sept. 9, 1971	1258	24.0	1.33	1,000
Apr. 21, 1971	1740	11.0	26.3	1,160					

MISCELLANEOUS ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

STREAMS TRIBUTARY TO LAKE MICHIGAN--Continued

04087233 ROOT RIVER CANAL NEAR FRANKLIN, WIS (LAT 42 48 55 LONG 087 59 40)

Date	Time	Water temperature (°C)	Discharge (cfs)	Specific conductance	Date	Time	Water temperature (°C)	Discharge (cfs)	Specific conductance
Dec. 17, 1970	1400	1.5	26.9	1,000	July 9, 1971	1552	21.0	21.7	850
Jan. 26, 1971	1435	0.0	9.38	1,020	July 28, 1971	1540	19.0	2.33	1,220
Mar. 10, 1971	1500	1.5	67.8	710	Aug. 19, 1971	1513	19.5	1.70	1,090
Apr. 22, 1971	1005	6.0	28.7	860	Sept.10, 1971	0815	20.0	1.32	1,400
June 2, 1971	1141	14.0	17.0	930					

04087240 ROOT RIVER AT RACINE, WIS (LAT 42 45 05 LONG 087 49 25)

Date	Time	Water temperature (°C)	Discharge (cfs)	Specific conductance	Date	Time	Water temperature (°C)	Discharge (cfs)	Specific conductance
Oct. 16, 1970	1435	11.5	37.6	-	July 9, 1971	1203	23.5	133	1,000
Dec. 17, 1970	1200	0.0	97.2	1,260	July 28, 1971	1746	23.5	9.59	890
Apr. 22, 1971	1103	9.5	106	910	Aug. 19, 1971	0913	21.5	5.97	920
June 2, 1971	1434	18.0	39.4	910	Sept.30, 1971	1032	19.0	12.8	1,010

04087257 PIKE RIVER NEAR RACINE, WIS (LAT 42 38 49 LONG 087 51 38)

Date	Time	Water temperature (°C)	Discharge (cfs)	Specific conductance	Date	Time	Water temperature (°C)	Discharge (cfs)	Specific conductance
July 8, 1971	1720	24.0	19.0	560	Aug. 20, 1971	0950	20.0	3.2	550
July 29, 1971	1020	17.0	3.3	650	Sept.10, 1971	1200	21.5	3.6	500

ST. CROIX RIVER BASIN

05333500 ST. CROIX RIVER NEAR DANBURY, WIS (LAT 46 04 28 LONG 092 14 50)

Date	Time	Water temperature (°C)	Discharge (cfs)	Specific conductance	Date	Time	Water temperature (°C)	Discharge (cfs)	Specific conductance
Oct. 7, 1970	1610	12.0	923	150	May 11, 1971	1415	14.0	1,544	130
Nov. 16, 1970	1000	1.5	2,140	125	May 19, 1971	1200	8.0	1,360	110
Dec. 31, 1970	1325	0.0	1,070	130	July 7, 1971	1045	21.5	928	140
Feb. 18, 1971	1245	0.0	894	170	Aug. 16, 1971	1345	21.0	842	140
Apr. 13, 1971	1500	4.0	5,560	150					

05340500 ST. CROIX RIVER AT ST. CROIX FALLS, WIS (LAT 45 24 25 LONG 092 38 49)

Date	Time	Water temperature (°C)	Discharge (cfs)	Specific conductance	Date	Time	Water temperature (°C)	Discharge (cfs)	Specific conductance
Oct. 27, 1970	1220	11.0	6,160	195	May 10, 1971	1030	15.5	5,960	140
Jan. 4, 1971	1300	5.0	4,400	250	June 14, 1971	1030	23.0	5,930	170
Feb. 9, 1971	1000	0.0	4,850	220	July 20, 1971	1400	21.5	5,990	180
Mar. 15, 1971	1120	6.0	5,330	310					

CHIPPEWA RIVER BASIN

05356000 CHIPPEWA RIVER AT BISHOPS BRIDGE NEAR WINTER, WIS (LAT 45 50 57 LONG 091 04 44)

Date	Time	Water temperature (°C)	Discharge (cfs)	Specific conductance	Date	Time	Water temperature (°C)	Discharge (cfs)	Specific conductance
Oct. 7, 1970	1000	11.5	139	110	Apr. 19, 1971	1400	11.5	122	55
Nov. 16, 1970	1000	2.5	1,550	80	May 21, 1971	-	15.0	346	80
Dec. 27, 1970	1510	3.0	1,360	85	Aug. 12, 1971	1130	21.0	365	85

05356500 CHIPPEWA RIVER NEAR BRUCE, WIS (LAT 45 27 08 LONG 091 15 39)

Date	Time	Water temperature (°C)	Discharge (cfs)	Specific conductance	Date	Time	Water temperature (°C)	Discharge (cfs)	Specific conductance
Oct. 28, 1970	1435	10.0	3,830	95	May 13, 1971	1200	13.5	973	-
Dec. 22, 1970	0930	0.0	-	85	June 21, 1971	1150	20.5	990	90
Jan. 12, 1971	1240	0.0	1,720	95	July 22, 1971	1045	22.0	1,210	100
Feb. 15, 1971	1500	0.0	2,400	90	Aug. 27, 1971	1030	17.0	1,060	90

05358500 FLAMBEAU RIVER AT BABBS ISLAND, NEAR WINTER, WIS (LAT 45 46 07 LONG 090 45 41)

Date	Time	Water temperature (°C)	Discharge (cfs)	Specific conductance	Date	Time	Water temperature (°C)	Discharge (cfs)	Specific conductance
Oct. 6, 1970	1340	13.5	528	130	May 21, 1971	1400	9.0	1,430	60
Nov. 13, 1970	1130	3.0	969	120	July 6, 1971	1300	23.5	1,050	90
Dec. 31, 1970	1130	0.0	849	120	July 26, 1971	1315	21.0	666	100
Feb. 26, 1971	1100	0.0	1,080	110	Aug. 10, 1971	1430	23.0	760	120
Mar. 24, 1971	1100	0.0	1,240	120	Aug. 24, 1971	1130	18.0	689	120
Apr. 14, 1971	1940	2.0	3,330	-	Sept.21, 1971	1345	13.5	377	100

05359500 SOUTH FORK FLAMBEAU RIVER NEAR PHILLIPS, WIS (LAT 45 42 08 LONG 090 36 58)

Date	Time	Water temperature (°C)	Discharge (cfs)	Specific conductance	Date	Time	Water temperature (°C)	Discharge (cfs)	Specific conductance
Oct. 6, 1970	1100	13.5	164	100	Mar. 24, 1971	1300	0.0	569	120
Nov. 13, 1970	1500	3.5	738	95	Apr. 13, 1971	1500	5.0	5,690	100
Dec. 7, 1970	1300	1.0	598	120	May 24, 1971	1300	12.0	1,280	60
Dec. 27, 1970	1400	0.0	314	100	June 25, 1971	1100	20.0	559	90
Feb. 26, 1971	1300	0.0	256	100	Aug. 10, 1971	1300	23.0	169	110

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

MISCELLANEOUS ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

CHIPPEWA RIVER BASIN--Continued

Date	Time	Water temperature (°C)	Discharge (cfs)	Specific conductance	Date	Time	Water temperature (°C)	Discharge (cfs)	Specific conductance
05360500 FLAMBEAU RIVER NEAR BRUCE, WIS (LAT 45 22 21 LONG 091 12 34)									
Oct. 28, 1970	1600	10.0	4,390	160	Apr. 12, 1971	1300	6.0	11,400	100
Dec. 4, 1970	1010	0.5	-	100	May 13, 1971	1100	13.0	1,730	-
Dec. 22, 1970	1300	0.0	-	125	June 21, 1971	1400	22.5	2,900	90
Jan. 12, 1971	1030	0.0	886	120	July 22, 1971	1300	23.0	1,090	100
Feb. 15, 1971	1200	0.0	875	120	Aug. 27, 1971	1300	20.0	833	100
Apr. 11, 1971	1500	6.0	5,460	100					
05362000 JUMP RIVER AT SHELDON, WIS (LAT 45 18 29 LONG 090 57 23)									
Nov. 4, 1970	1515	5.0	1,700	120	Mar. 29, 1971	1130	0.0	327	150
Dec. 22, 1970	1230	0.0	182	130	June 25, 1971	1230	21.0	218	120
Jan. 25, 1971	1020	0.0	112	120	July 28, 1971	1100	25.0	107	120
Feb. 25, 1971	1410	0.0	128	150	Aug. 27, 1971	1230	19.0	166	130
05365500 CHIPPEWA RIVER AT CHIPPEWA FALLS, WIS (LAT 44 55 37 LONG 091 24 33)									
Dec. 9, 1970	0845	0.0	7,430	130	June 1971	1405	20.5	8,082	100
Jan. 7, 1971	1430	0.5	7,396	170	July 22, 1971	1030	22.0	273	90
Feb. 8, 1971	1200	0.0	12,768	100	Aug. 30, 1971	1115	22.5	516	150
May 6, 1971	-	11.5	-	110					
05367425 RED CEDAR RIVER NEAR CAMERON, WIS (LAT 45 24 05 LONG 091 46 38)									
June 8, 1971	1600	18.5	642	150	Sept.16, 1971	1430	16.5	281	70
July 26, 1971	1500	20.5	269	180	Sept.29, 1971	1530	15.5	370	140
05368000 HAY RIVER AT WHEELER, WIS (LAT 45 02 52 LONG 091 54 39)									
Oct. 28, 1970	1200	9.5	896	180	Apr. 9, 1971	1100	5.0	1,960	250
Dec. 9, 1970	1100	2.0	312	300	May 6, 1971	1200	12.5	334	320
Dec. 28, 1970	1030	0.0	258	140	June 8, 1971	1330	17.5	585	200
Feb. 8, 1971	1630	0.0	211	340	June 24, 1971	1500	20.0	288	340
Mar. 16, 1971	1500	2.0	382	300	July 26, 1971	1200	16.0	242	300
Apr. 2, 1971	1100	0.0	2,320	280	Aug. 30, 1971	1030	16.5	226	350
05369000 RED CEDAR RIVER AT MENOMONIE, WIS (LAT 44 53 02 LONG 091 55 57)									
Oct. 29, 1970	1015	11.0	3,210	190	May 12, 1971	1245	14.5	1,170	190
Dec. 9, 1970	1130	2.5	2,670	190	June 17, 1971	1015	23.0	1,980	190
Jan. 5, 1971	0930	0.0	428	100	July 29, 1971	0800	20.5	440	210
Feb. 8, 1971	1340	0.0	1,940	210	Aug. 30, 1971	1615	21.0	1,530	200
Mar. 17, 1971	1115	0.5	2,560	220					
05369500 CHIPPEWA RIVER AT DURAND, WIS (LAT 44 37 40 LONG 091 58 10)									
Oct. 29, 1970	1545	11.5	21,600	120	May 12, 1971	0940	11.5	8,160	80
Dec. 8, 1970	1530	1.0	9,380	140	June 15, 1971	1500	25.5	9,220	140
Jan. 6, 1971	1430	0.0	-	120	July 29, 1971	1200	20.0	5,740	120
Jan. 13, 1971	1315	0.0	6,900	120	Aug. 30, 1971	1645	23.5	3,660	170
Feb. 11, 1971	1330	0.0	6,500	-					
05370000 EAU GALLE RIVER AT SPRING VALLEY, WIS (LAT 44 51 10 LONG 092 14 17)									
Dec. 7, 1970	1430	1.0	16.9	300	Apr. 1, 1971	1400	0.0	627	130
Jan. 6, 1971	1645	1.5	13.9	400	May 12, 1971	1320	18.0	-	400
Mar. 17, 1971	1330	3.0	30.0	420	June 8, 1971	1100	18.0	17.0	280
Mar. 30, 1971	1245	4.0	239	440					

TREMPEALEAU RIVER BASIN

Date	Time	Water temperature (°C)	Discharge (cfs)	Specific conductance	Date	Time	Water temperature (°C)	Discharge (cfs)	Specific conductance
05379400 TREMPEALEAU RIVER AT ARCADIA, WIS (LAT 44 15 15 LONG 091 30 25)									
Dec. 8, 1970	1115	0.0	-	240	Apr. 2, 1971	0945	1.0	9.650	-
Jan. 13, 1971	1600	0.0	310	220	May 11, 1971	1715	15.0	384	180
Feb. 10, 1971	1630	0.0	247	-	June 16, 1971	0930	23.0	375	280
Mar. 18, 1971	1000	4.0	721	260	July 27, 1971	1230	18.5	290	200
Apr. 1, 1971	1430	2.0	2,170	-	Aug. 31, 1971	0945	17.0	248	110
Apr. 1, 1971	1800	2.0	2,180	-					

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

MISCELLANEOUS ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

TREMPEALEAU RIVER BASIN--Continued

05379500 TREMPEALEAU RIVER AT DODGE, WIS (LAT 44 07 55 LONG 091 33 14)

Date	Time	Water tem- per- ature (°C)	Dis- charge (cfs)	Specific conduct- ance	Date	Time	Water tem- per- ature (°C)	Dis- charge (cfs)	Specific conduct- ance
Feb. 10, 1971	1500	0.0	290	300	July 27, 1971	1400	18.5	305	300
May 11, 1971	1530	15.5	436	190	Aug. 31, 1971	1100	17.5	294	100
June 16, 1971	1100	24.0	372	280					

BLACK RIVER BASIN

05381000 BLACK RIVER AT NEILLSVILLE, WIS (LAT 44 33 35 LONG 090 36 54)

Date	Time	Water tem- per- ature (°C)	Dis- charge (cfs)	Specific conduct- ance	Date	Time	Water tem- per- ature (°C)	Dis- charge (cfs)	Specific conduct- ance
Oct. 26, 1970	-	3.0	1,150	250	Apr. 9, 1971	1230	2.0	11,340	80
Dec. 31, 1970	1135	0.0	110	-	June 4, 1971	1320	22.0	322	90
Feb. 11, 1971	1300	0.0	97.4	-	July 21, 1971	1300	21.5	258	180
Apr. 8, 1971	1325	2.0	7,040	60	Aug. 26, 1971	1015	18.0	57.6	200

05382000 BLACK RIVER NEAR GALESVILLE, WIS (LAT 44 03 42 LONG 091 17 30)

Date	Time	Water tem- per- ature (°C)	Dis- charge (cfs)	Specific conduct- ance	Date	Time	Water tem- per- ature (°C)	Dis- charge (cfs)	Specific conduct- ance
Oct. 1, 1970	1440	14.5	912	115	Feb. 10, 1971	1220	0.0	603	-
Jan. 6, 1971	1045	0.0	585	-	Aug. 23, 1971	1833	21.5	648	135

WISCONSIN RIVER BASIN

05390180 WISCONSIN RIVER AT CONOVER, WIS (LAT 46 02 52 LONG 089 15 57)

Date	Time	Water tem- per- ature (°C)	Dis- charge (cfs)	Specific conduct- ance	Date	Time	Water tem- per- ature (°C)	Dis- charge (cfs)	Specific conduct- ance
Oct. 19, 1970	1130	7.0	145	85	Apr. 13, 1971	1230	0.0	481	60
Dec. 22, 1970	1115	0.0	209	100	June 3, 1971	1445	17.0	161	100
Feb. 10, 1971	1420	0.0	154	110	July 28, 1971	1205	15.0	157	75
Mar. 22, 1971	1220	0.0	171	80					

05391000 WISCONSIN RIVER AT RAINBOW LAKE, NEAR LAKE TOMAHAWK, WIS (LAT 45 49 58 LONG 089 32 51)

Date	Time	Water tem- per- ature (°C)	Dis- charge (cfs)	Specific conduct- ance	Date	Time	Water tem- per- ature (°C)	Dis- charge (cfs)	Specific conduct- ance
Nov. 2, 1970	1355	7.0	302	80	June 23, 1971	1155	21.0	800	85
Dec. 22, 1970	1330	0.5	1,010	100	Sept. 7, 1971	1530	20.5	543	90
Feb. 23, 1971	1315	0.5	962	<50					

05391010 GILMORE CREEK AT RAINBOW LAKE, WIS (LAT 45 44 56 LONG 089 33 04)

Date	Time	Water tem- per- ature (°C)	Dis- charge (cfs)	Specific conduct- ance	Date	Time	Water tem- per- ature (°C)	Dis- charge (cfs)	Specific conduct- ance
Nov. 2, 1970	-	7.0	56.9	90	June 23, 1971	1245	22.0	197	70
Feb. 23, 1971	1430	0.5	120	<50	Sept. 7, 1971	1430	21.5	76	80
Mar. 25, 1971	1210	0.5	14.9	<50					

05393500 SPIRIT RIVER AT SPIRIT FALLS, WIS (LAT 45 26 58 LONG 089 58 47)

Date	Time	Water tem- per- ature (°C)	Dis- charge (cfs)	Specific conduct- ance	Date	Time	Water tem- per- ature (°C)	Dis- charge (cfs)	Specific conduct- ance
Oct. 8, 1970	1310	13.0	28.5	190	Apr. 12, 1971	1500	-	2,050	50
Nov. 4, 1970	1045	4.5	280	75	June 29, 1971	0925	23.5	13.5	100
Dec. 14, 1970	1310	0.0	51.6	80	Aug. 11, 1971	0940	16.0	52.4	120
Feb. 12, 1971	1300	0.0	24.1	110	Sept.10, 1971	1035	16.0	24.7	130
Mar. 12, 1970	1410	0.5	39.9	-					

05394500 PRAIRIE RIVER NEAR MERRILL, WIS (LAT 45 14 09 LONG 089 38 59)

Date	Time	Water tem- per- ature (°C)	Dis- charge (cfs)	Specific conduct- ance	Date	Time	Water tem- per- ature (°C)	Dis- charge (cfs)	Specific conduct- ance
Oct. 8, 1970	1040	13.0	82.4	220	Mar. 12, 1971	1405	0.0	103	180
Nov. 6, 1970	1000	-	313	100	June 22, 1971	1345	21.0	168	130
Dec. 2, 1970	1435	1.0	406	120	Aug. 10, 1971	0855	22.0	76.2	100
Jan. 11, 1971	1120	0.0	104	110	Sept.24, 1971	1030	9.5	118	180
Feb. 17, 1971	1530	0.0	94.3	100					

05395000 WISCONSIN RIVER AT MERRILL, WIS (LAT 45 10 41 LONG 089 40 52)

Date	Time	Water tem- per- ature (°C)	Dis- charge (cfs)	Specific conduct- ance	Date	Time	Water tem- per- ature (°C)	Dis- charge (cfs)	Specific conduct- ance
Oct. 6, 1970	0945	12.0	1,160	70	May 28, 1971	1030	12.0	4,880	80
Jan. 11, 1971	1345	0.0	2,540	100	July 16, 1971	1405	22.0	2,160	90
Feb. 18, 1971	1350	0.0	2,440	120	Aug. 30, 1971	1350	19.0	1,550	180
Apr. 1, 1971	1055	1.0	3,220	140					

MISCELLANEOUS ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

Date	Time	Water temperature (°C)	Discharge (cfs)	Specific conductance	Date	Time	Water temperature (°C)	Discharge (cfs)	Specific conductance
WISCONSIN RIVER BASIN--Continued									
05402000 YELLOW RIVER AT BABCOCK, WIS (LAT 44 18 05 LONG 090 07 15)									
Oct. 27, 1970	0945	6.0	100	100	Apr. 9, 1971	0845	3.0	4,320	70
Jan. 8, 1971	1035	0.0	23.4	100	Apr. 27, 1971	1215	3.0	65.8	100
Feb. 11, 1971	0940	0.0	22.0	120	June 9, 1971	1055	14.0	40.4	100
Mar. 17, 1971	1100	0.0	121	200	July 21, 1971	1015	20.0	12.8	100
Apr. 7, 1971	1325	1.0	2,150	85	Aug. 25, 1971	1400	18.5	19.6	120
05403500 LEMONWEIR RIVER AT NEW LISBON, WIS (LAT 43 52 47 LONG 090 09 40)									
Oct. 6, 1970	1035	13.5	170	125	May 3, 1971	1355	11.5	336	140
Nov. 11, 1970	0850	6.5	469	170	June 9, 1971	1430	19.0	366	125
Jan. 7, 1971	1115	0.0	220	-	July 19, 1971	1435	21.0	152	160
Mar. 25, 1971	1140	0.5	808	120	Aug. 27, 1971	0955	16.5	142	150
05404000 WISCONSIN RIVER NEAR WISCONSIN DELLS, WIS (LAT 43 36 22 LONG 089 45 25)									
Oct. 7, 1970	1215	15.0	3,430	200	July 29, 1971	1200	21.0	4,020	-
Nov. 18, 1970	1200	5.0	5,900	220	Sept. 1, 1971	1515	21.0	5,580	160
June 2, 1971	1310	16.5	9,210	110					
05405000 BARABOO RIVER NEAR BARABOO, WIS (LAT 43 28 51 LONG 089 38 09)									
Oct. 6, 1970	1405	15.0	145	400	Mar. 27, 1971	1025	0.5	477	305
Nov. 18, 1970	1405	5.0	204	390	May 5, 1971	1340	11.0	331	320
Jan. 7, 1971	1410	0.0	180	420	June 11, 1971	1340	20.0	273	330
Feb. 18, 1971	1405	0.0	186	470	July 28, 1971	1450	20.0	176	290
05406500 BLACK EARTH CREEK AT BLACK EARTH, WIS (LAT 43 08 03 LONG 089 43 56)									
Oct. 7, 1970	1555	16.0	25.9	600	Mar. 29, 1971	1035	4.5	60.0	500
Nov. 19, 1970	1530	6.5	22.0	600	Apr. 27, 1971	0950	7.0	39.9	560
Dec. 16, 1970	1245	4.0	20.4	575	June 2, 1971	1625	15.5	33.0	360
Jan. 15, 1971	1125	0.0	29.6	-	July 23, 1971	1510	18.5	26.8	480
Feb. 19, 1971	1510	4.0	39.5	560	Sept. 3, 1971	1150	18.0	25.9	580
05406640 OTTER CREEK NEAR HIGHLAND, WIS (LAT 43 01 40 LONG 090 16 40)									
Nov. 11, 1970	1510	8.5	2.4	500	June 4, 1971	1330	15.5	16.0	470
Dec. 17, 1970	1210	1.5	2.4	580	July 22, 1971	1220	21.5	6.4	480
Jan. 26, 1971	1415	0.5	2.5	450	Aug. 24, 1971	1150	21.0	4.8	480
Mar. 4, 1971	1425	4.5	2.8	-	Sept.23, 1971	1415	17.0	4.2	-
05407000 WISCONSIN RIVER AT MUSCODA, WIS (LAT 43 11 54 LONG 090 26 26)									
Oct. 29, 1970	1250	10.0	6,410	270	June 22, 1971	1405	25.5	7,620	205
Jan. 8, 1971	1340	0.0	4,770	300	July 16, 1971	1440	25.5	5,570	225
Mar. 31, 1971	1400	5.0	13,800	225					
05408000 KICKAPOO RIVER AT LA FARGE, WIS (LAT 43 34 27 LONG 090 38 35)									
Nov. 10, 1970	1550	7.0	195	480	June 7, 1971	1420	19.0	174	380
Dec. 3, 1970	1328	3.5	72.8	500	July 20, 1971	1645	21.0	43.3	400
Jan. 5, 1971	1350	0.0	101.3	280	July 22, 1971	1105	22.0	216	-
Feb. 15, 1971	1130	0.0	106	-	July 22, 1971	1540	22.0	49.7	390
Mar. 24, 1971	1535	1.5	205	450	Aug. 31, 1971	1505	18.5	44.2	460
Apr. 28, 1971	1134	7.0	121	420					
05410000 KICKAPOO RIVER AT GAYS MILLS, WIS (LAT 43 19 10 LONG 090 51 08)									
Dec. 14, 1970	1430	0.5	305	-	July 21, 1971	0910	20.0	440	319
Jan. 21, 1971	1300	0.0	255	500	Aug. 30, 1971	1410	18.5	239	425
Apr. 19, 1971	1200	13.5	510	400					
05410500 KICKAPOO RIVER AT STEUBEN, WIS (LAT 43 11 27 LONG 090 52 28)									
Apr. 7, 1971	1520	7.0	639	450	Aug. 31, 1971	1200	19.0	318	435
Apr. 19, 1971	1500	14.0	589	420					

MISCELLANEOUS ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

GRANT RIVER BASIN

05413500 GRANT RIVER AT BURTON, WIS (LAT 42 43 13 LONG 090 49 09)

Date	Time	Water temperature (°C)	Discharge (cfs)	Specific conductance	Date	Time	Water temperature (°C)	Discharge (cfs)	Specific conductance
Oct. 6, 1970	1100	15.0	110	600	Mar. 2, 1971	1200	1.5	306	-
Nov. 10, 1970	1000	7.0	116	590	Apr. 20, 1971	1125	14.5	174	500
Dec. 8, 1970	0910	2.0	97.7	-	May 6, 1971	1535	14.5	159	-
Dec. 15, 1970	1205	0.0	64.9	620	June 2, 1971	1240	17.0	146	500
Jan. 7, 1971	1240	0.0	91.0	-	July 20, 1971	1310	21.0	102.3	450
Jan. 20, 1971	1525	0.0	74.6	560	Aug. 31, 1971	1850	22.0	91.3	510
Feb. 2, 1971	1525	0.5	69.2	-	Sept.27, 1971	1225	14.5	100	540

PLATTE RIVER BASIN

05414000 PLATTE RIVER NEAR ROCKVILLE, WIS (LAT 42 43 52 LONG 090 38 25)

Date	Time	Water temperature (°C)	Discharge (cfs)	Specific conductance	Date	Time	Water temperature (°C)	Discharge (cfs)	Specific conductance
Oct. 6, 1970	1310	16.5	72.5	560	Mar. 30, 1971	1540	10.0	223	-
Nov. 10, 1970	1235	10.0	66.5	570	Apr. 20, 1971	1350	15.0	126	500
Dec. 8, 1970	1135	3.0	60.4	-	May 6, 1971	1410	14.0	109	-
Dec. 15, 1970	1350	0.0	80.7	600	June 2, 1971	1455	16.5	122	520
Jan. 7, 1971	1000	0.0	48.4	-	June 3, 1971	0925	16.5	94.6	-
Jan. 20, 1971	1300	0.0	51.3	-	July 20, 1971	1500	23.0	58.4	470
Feb. 3, 1971	1020	0.5	365	-	Sept. 1, 1971	1050	19.5	52.2	500
Mar. 2, 1971	0940	1.0	174	-	Sept.27, 1971	1415	16.5	58.4	520
Mar. 2, 1971	1440	1.0	178	-					

GALENA RIVER BASIN

05415000 GALENA RIVER AT BUNCOMBE, WIS (LAT 42 30 49 LONG 090 22 40)

Date	Time	Water temperature (°C)	Discharge (cfs)	Specific conductance	Date	Time	Water temperature (°C)	Discharge (cfs)	Specific conductance
Oct. 7, 1970	1220	18.5	50.6	810	June 3, 1971	1140	20.0	47.2	650
Nov. 11, 1970	1005	7.0	42.8	800	July 21, 1971	1125	24.0	24.6	725
Dec. 16, 1970	1215	0.0	42.8	810	Aug. 25, 1971	1210	21.5	21.1	750
Jan. 25, 1971	1302	0.0	35.2	800	Sept.27, 1971	1140	14.5	100	540
Mar. 1, 1971	1405	2.0	175	-	Sept.28, 1971	1010	19.0	24.3	790
Apr. 21, 1971	1125	11.5	68.6	700					

ROCK RIVER BASIN

05426000 CRAWFISH RIVER AT MILFORD, WIS (LAT 43 06 00 LONG 088 50 58)

Date	Time	Water temperature (°C)	Discharge (cfs)	Specific conductance	Date	Time	Water temperature (°C)	Discharge (cfs)	Specific conductance
Oct. 6, 1970	1715	17.0	103	720	May 10, 1971	1100	16.5	530	580
Nov. 19, 1970	1400	4.5	212	870	June 22, 1971	1050	24.5	245.5	580
Jan. 7, 1971	1710	0.0	124	-	July 30, 1971	0950	18.5	63.2	660
Feb. 13, 1971	1700	0.0	145	750	Aug. 24, 1971	1015	22.0	50.6	650
Mar. 29, 1971	1730	3.0	1,970	610	Sept.17, 1971	0955	16.5	41.0	660

05429500 YAHARA RIVER NEAR MC FARLAND, WIS (LAT 43 00 32 LONG 089 18 18)

Date	Time	Water temperature (°C)	Discharge (cfs)	Specific conductance	Date	Time	Water temperature (°C)	Discharge (cfs)	Specific conductance
Oct. 5, 1970	1153	17.0	101	460	May 27, 1971	1129	16.0	80.0	460
Nov. 13, 1970	1530	7.5	105	480	June 15, 1971	1555	26.5	54.4	460
Dec. 4, 1970	1440	3.0	128	425	June 23, 1971	1440	26.0	131	415
Dec. 16, 1970	1035	0.0	94.0	-	July 7, 1971	1600	28.5	38.1	360
Dec. 30, 1970	1425	0.0	104	500	July 30, 1971	1115	20.5	17.8	380
Jan. 29, 1971	1050	1.0	91.8	210	Aug. 6, 1971	1509	24.5	8.11	415
Mar. 2, 1971	1430	2.0	327	485	Aug. 13, 1971	1500	29.5	10.8	390
Mar. 26, 1971	1345	3.0	366	500	Aug. 23, 1971	1500	26.0	18.5	400
Apr. 29, 1971	1501	10.5	161	455	Sept. 7, 1971	1250	25.0	33.5	400
May 10, 1971	1520	18.0	76.1	435	Sept.23, 1971	1645	19.0	22.0	400

MISCELLANEOUS ANALYSES, WATER YEAR OCTOBER 1970 to September 1971

Date	Time	Water temperature (°C)	Discharge (cfs)	Specific conductance	Date	Time	Water temperature (°C)	Discharge (cfs)	Specific conductance
ROCK RIVER BASIN--Continued									
05430500 ROCK RIVER AT AFTON, WIS (LAT 42 36 33 LONG 089 04 14)									
Nov. 2, 1970	1715	8.5	1,460	690	June 4, 1971	1157	19.0	1,320	680
Dec. 15, 1970	1410	0.0	1,520	710	July 13, 1971	1238	24.0	623	630
Jan. 22, 1971	1015	0.0	873	850	Aug. 16, 1971	1211	20.5	556	680
Mar. 17, 1971	1255	1.0	4,730	180	Sept.28, 1971	1603	20.0	397	710
Apr. 26, 1971	1225	12.0	4,400	565					
05431500 TURTLE CREEK NEAR CLINTON, WIS (LAT 42 35 47 LONG 088 51 50)									
Nov. 2, 1970	1240	6.0	216	580	June 3, 1971	1640	24.0	118	630
Dec. 16, 1970	1112	0.0	136	710	July 14, 1971	0928	19.5	56.7	655
Mar. 5, 1971	1455	1.5	318	560	Aug. 17, 1971	1009	19.0	64.8	650
Apr. 19, 1971	1515	13.5	118	650	Sept.29, 1971	1028	18.0	50.5	670
05432500 PECATONICA RIVER AT DARLINGTON, WIS (LAT 42 40 40 LONG 090 07 07)									
Oct. 8, 1970	0915	16.5	99.7	650	June 4, 1971	0930	19.0	142	580
Dec. 16, 1970	1430	0.0	89.9	690	July 21, 1971	1455	23.5	84.8	560
Jan. 25, 1971	1505	0.0	71.4	600	Aug. 25, 1971	1415	21.0	86.9	540
Mar. 15, 1971	2010	0.5	2,259	-	Sept.28, 1971	1200	18.0	77.5	580
Apr. 21, 1971	1410	11.5	238	62					
05433000 EAST BRANCH PECATONICA RIVER NEAR BLANCHARDVILLE, WIS (LAT 42 47 10 LONG 089 51 40)									
Oct. 8, 1970	1435	16.5	70.5	-	June 3, 1971	1550	19.0	127	440
Nov. 13, 1970	1010	7.0	78.8	590	July 22, 1971	0815	21.0	82.4	480
Dec. 17, 1970	1535	0.0	81.2	530	Aug. 24, 1971	1520	21.5	80.8	470
Jan. 26, 1971	1055	0.0	75.1	560	Sept.28, 1971	1430	19.0	77.4	500
Apr. 22, 1971	1505	10.5	218	-					
05434500 PECATONICA RIVER AT MARTINTOWN, WIS (LAT 42 30 34 LONG 089 47 58)									
Nov. 12, 1970	1350	8.0	452	580	Apr. 23, 1971	1105	10.5	1,020	-
Dec. 18, 1970	1045	0.0	445	-	Sept.29, 1971	1050	18.5	324	540
Jan. 22, 1971	1330	0.0	298	640					
05436500 SUGAR RIVER NEAR BRODHEAD, WIS (LAT 42 36 42 LONG 089 23 53)									
Mar. 17, 1971	1705	3.0	1,180	75	July 13, 1971	1519	26.0	202	540
Apr. 26, 1971	1440	15.0	355	540	Aug. 16, 1971	1600	24.5	217	515
June 4, 1971	1449	24.0	324	530	Sept.28, 1971	1203	19.5	209	530
ILLINOIS RIVER BASIN									
05543830 FOX RIVER AT WAUKESHA, WIS (LAT 43 00 17 LONG 088 14 37)									
Nov. 3, 1970	1205	6.5	56.3	960	June 1, 1971	1318	16.0	53.2	870
Dec. 18, 1970	1404	2.0	37.8	1,200	July 7, 1971	1351	24.5	23.2	1,000
Jan. 25, 1971	1312	1.0	35.3	1,330	Aug. 18, 1971	1344	24.0	16.3	1,020
Mar. 9, 1971	1455	0.5	233	800	Sept.30, 1971	1508	21.5	14.1	1,070
Apr. 21, 1971	1151	11.0	158	790					

SEDIMENT ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

STREAMS TRIBUTARY TO LAKE SUPERIOR

04025500 - BOIS BRULE R. AT BRULE, WIS. (LAT 46 32 16 LONG 091 35 43)

DATE	TIME	TEMPERATURE (DEG C)	DISCHARGE (CFS)	SUSPENDED SEDIMENT (MG/L)	SUSPENDED SEDIMENT DISCHARGE (T/DAY)
APR., 1971					
10...	1710	6.0	411	54	60
10...	1900	--	433	64	75
10...	2145	5.0	443	54	65
11...	0915	4.5	448	30	36
11...	1115	5.0	476	50	64
11...	1330	5.0	532	82	118
11...	2000	3.5	705	92	175
12...	1350	4.5	705	37	69
12...	1640	--	798	51	110
13...	1240	4.0	693	30	56
14...	1115	--	609	26	42
14...	1810	3.5	620	14	23
19...	0755	6.5	500	12	16
AUG.					
18...	0845	17.0	249	20	13
18...	1255	19.0	238	10	6.4
18...	1505	20.0	236	8	4.8
19...	0950	14.0	255	14	10
19...	1235	18.5	253	12	7.8
SEP.					
10...	1625	--	194	4	1.8
17...	1015	--	145	2	.78
24...	1115	--	154	2	.62

04026005 - BOIS BRULE RIVER NR. LAKE SUPERIOR, WIS. (LAT 46 42 20 LONG 091 36 07)

DATE	TIME	DISCHARGE (CFS)	SUSPENDED SEDIMENT (MG/L)	SUSPENDED SEDIMENT DISCHARGE (T/DAY)
OCT.				
08...	1100	619	619	964
APR.				
14...	1200	660	126	224
JULY				
07...	--	160	--	--
07...	1300	135	20	7.3
21...	1230	162	9	3.9
AUG.				
17...	1215	160	8	3.7

DATE	DISCHARGE (CFS)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM
JULY											
07...	160	-	1	4	13	19	25	27	31	38	54

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

SEDIMENT ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

STREAMS TRIBUTARY TO LAKE MICHIGAN

DATE	TIME	TEMPERATURE (DEG C)	DISCHARGE (CFS)	SUSPENDED SEDIMENT (MG/L)	SUSPENDED SEDIMENT DISCHARGE (T/DAY)
04064500 - PINE R. BL. P.R. POWERPL., NR. FLORENCE, WIS. (LAT 45 50 16 LONG 088 13 31)					
APR., 1971					
12...	1445	--	2200	11	65
04066003 - MENOMINEE RIVER NR. PEMBINE, WIS. (LAT 45 35 24 LONG 087 46 34)					
APR., 1971					
14...	1330	--	14600	26	1020
04071000 - OCONTO RIVER NR. GILLETT, WIS. (LAT 44 51 51 LONG 088 19 00)					
MAY , 1971					
28...	1300	13.5	1300	11	39
JULY					
29...	1245	19.5	373	6	6.0
AUG.					
27...	1230	18.5	397	1	1.1
SEP.					
27...	1100	12.0	400	0	.00
04073050 - GRAND RIVER NR. KINGSTON, WIS. (LAT 43 41 09 LONG 089 05 09)					
APR., 1971					
14...	1545	--	124	56	19
MAY					
13...	1400	16.5	50	14	1.9
JUNE					
15...	1315	--	28	4	.30
JULY					
28...	1145	--	16	4	.19
29...	1150	18.0	16	4	.17
AUG.					
27...	1400	--	13	2	.07
SEP.					
30...	1700	22.0	12	32	1.0
04073090 - GRAND R. AT CO. HWY. H, NR. KINGSTON, WIS. (LAT 43 43 01 LONG 089 09 40)					
FEB., 1970					
26...	1100	--	20	38	2.1
MAR., 1971					
16...	1315	1.0	600	58	94
17...	1130	1.0	380	28	29
SEP.					
30...	1210	--	21	10	.57
04074500 - EMBARRASS RIVER NR. EMBARRASS, WIS. (LAT 44 43 29 LONG 088 44 10)					
APR., 1971					
11...	1100	2.0	2560	56	387
JULY					
22...	1220	--	239	12	7.4
SEP.					
02...	1445	22.0	123	2	.83
04085200 - KEWAUNEE RIVER NR. KEWAUNEE, WIS. (LAT 44 27 42 LONG 087 32 40)					
MAR., 1971					
22...	1330	--	282	15	11
APR.					
01...	1630	--	1550	82	343
SEP.					
23...	1300	--	12	15	.49

SEDIMENT ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

STREAMS TRIBUTARY TO LAKE MICHIGAN--Continued

04086150 - MILWAUKEE RIVER AT KEWASKUM, WIS. (LAT 43 31 02 LONG 088 13 22)

DATE	TIME	TEMP- ERATURE (DEG C)	DIS- CHARGE (CFS)	SUS- PENDED SEDI- MENT (MG/L)	SUS- PENDED SEDI- MENT DIS- CHARGE (T/DAY)
APR., 1971					
09...	1630	--	492	9	12
MAY					
12...	0720	--	67	100	18
JUNE					
17...	0900	--	20	16	.86
JULY					
23...	1930	--	7.4	18	.36
AUG.					
26...	0920	--	9.0	13	.32

04086200 - EAST BRANCH MILWAUKEE R. AT NEW FANE, WIS. (LAT 43 33 01 LONG 088 11 18)

DATE	TIME	TEMP- ERATURE (DEG C)	DIS- CHARGE (CFS)	SUS- PENDED SEDI- MENT (MG/L)	SUS- PENDED SEDI- MENT DIS- CHARGE (T/DAY)
APR., 1971					
09...	1210	--	161	8	3.7
MAY					
12...	0920	--	31	14	1.2
JUNE					
16...	1745	--	11	8	.22
JULY					
03...	1710	--	4.4	8	.10
AUG.					
25...	1600	--	7.4	16	.32

04086340 - NORTH BRANCH MILWAUKEE R. NR. FILLMORE, WIS. (LAT 43 24 59 LONG 088 03 39)

DATE	TIME	TEMP- ERATURE (DEG C)	DIS- CHARGE (CFS)	SUS- PENDED SEDI- MENT (MG/L)	SUS- PENDED SEDI- MENT DIS- CHARGE (T/DAY)
APR., 1971					
02...	1755	--	666	6	11
09...	1810	--	443	3	3.6
MAY					
11...	1315	--	68	249	45
JUNE					
17...	1100	--	33	144	13
JULY					
23...	1545	--	15	24	.97
AUG.					
25...	1400	--	27	36	2.6

04086360 - MILWAUKEE RIVER AT WAUBEKA, WIS. (LAT 43 28 22 LONG 087 59 23)

DATE	TIME	TEMP- ERATURE (DEG C)	DIS- CHARGE (CFS)	SUS- PENDED SEDI- MENT (MG/L)	SUS- PENDED SEDI- MENT DIS- CHARGE (T/DAY)
APR., 1971					
08...	1600	--	1240	10	33

04087000 - MILWAUKEE RIVER AT MILWAUKEE, WIS. (LAT 43 06 00 LONG 087 54 30)

DATE	TIME	TEMP- ERATURE (DEG C)	DIS- CHARGE (CFS)	SUS- PENDED SEDI- MENT (MG/L)	SUS- PENDED SEDI- MENT DIS- CHARGE (T/DAY)
MAY , 1971					
11...	0900	--	329	18	16
JUNE					
18...	1300	--	201	8	4.1
JULY					
24...	1100	--	60	5	.81
AUG.					
24...	1630	--	108	8	2.2

SEDIMENT ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

STREAMS TRIBUTARY TO LAKE MICHIGAN--Continued

04087220 - ROOT RIVER NR. FRANKLIN, WIS. (LAT 42 52 25 LONG 087 59 45)

DATE	TIME	TEMPERATURE (DEG C)	DISCHARGE (CFS)	SUSPENDED SEDIMENT (MG/L)	SUSPENDED SEDIMENT DISCHARGE (T/DAY)
MAR., 1971					
10...	1225	--	43	59	6.8
APR.					
21...	1730	--	26	34	2.4
JUNE					
02...	1035	--	28	70	5.3
JULY					
09...	1440	--	26	132	9.3
28...	1340	--	1.8	52	.25
AUG.					
19...	1412	--	1.0	46	.12
SEP.					
09...	1245	--	1.3	28	.10

04087240 - ROOT RIVER AT RACINE, WIS. (LAT 42 45 05 LONG 087 49 25)

DATE	TIME	TEMPERATURE (DEG C)	DISCHARGE (CFS)	SUSPENDED SEDIMENT (MG/L)	SUSPENDED SEDIMENT DISCHARGE (T/DAY)
MAR., 1971					
11...	1000	--	185	26	13
APR.					
22...	1130	--	106	30	8.6
JUNE					
02...	1425	--	39	26	3.0
JULY					
02...	1425	--	39	26	2.7
09...	1115	--	133	56	20
AUG.					
19...	1030	--	6.0	153	2.5
SEP.					
10...	1035	--	4.0	89	.96
30...	1035	--	13	127	4.5

CHIPPEWA RIVER BASIN

05359500 - SOUTH FORK FLAMBEAU RIVER NEAR PHILLIPS, WIS. (LAT 45 42 08 LONG 090 36 58)

DATE	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM
AUG.										
10...	0	1	9	30	38	42	44	49	60	81

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

SEDIMENT ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

CHIPPEWA RIVER BASIN--Continued

05368000 - HAY RIVER AT WHEELER, WIS. (LAT 45 02 52 LONG 091 54 39)

DATE	TIME	TEMPERATURE (DEG C)	DISCHARGE (CFS)	SUSPENDED SEDIMENT (MG/L)	SUSPENDED SEDIMENT DISCHARGE (T/DAY)
APR.					
01...	0830	1.5	1940	410	2140
02...	1100	--	2440	166	1090
02...	1600	1.0	2130	254	1460
03...	0930	.5	1300	157	694
04...	1400	3.0	935	146	369
05...	1630	5.0	816	89	196
06...	1630	5.0	1050	142	403
07...	1715	5.0	1460	205	810
08...	1500	5.0	1800	255	1240
08...	1730	5.0	1870	196	884
08...	1950	4.5	1940	200	997
08...	2220	4.5	1980	196	1010
09...	0250	4.5	2020	210	1310
09...	0730	--	2060	385	2140
09...	0740	4.5	2060	168	915
09...	1155	--	2060	--	--
09...	1415	--	816	195	430
09...	1535	4.5	2060	165	915
09...	1620	--	2060	320	1780
10...	0730	6.5	1500	126	510
10...	0750	5.0	2060	306	1700
10...	1635	8.0	1050	503	1430
11...	1840	10.0	1330	109	391
12...	0830	7.0	1160	140	437
AUG.					
04...	--	--	237	--	--
30...	0920	--	275	19	14

DATE	TIME	DISCHARGE (CFS)	SUSPENDED SEDIMENT (MG/L)	SUSPENDED SEDIMENT DISCHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM
APR.												
09...	1155	2060	--	--	--	--	--	--	--	--	--	--
09...	1415	816	195	430	10	13	15	18	22	25	32	48
09...	1620	2060	320	1780	6	8	9	12	14	16	20	31
AUG.												
04...	--	237	--	--	--	--	--	--	--	--	--	--

DATE	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM	SUS. SED. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM
APR.												
09...	--	--	0	1	6	59	81	90	95	99	100	--
09...	94	100	--	--	--	--	--	--	--	--	--	--
09...	46	92	--	--	--	--	--	--	--	--	--	--
AUG.												
04...	--	--	0	1	16	43	53	62	77	94	99	100

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS
SEDIMENT ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

TREMPEALEAU RIVER BASIN

05379400 - TREMPEALEAU RIVER AT ARCADIA, WIS. (LAT 44 15 15 LONG 091 30 25)

DATE	TIME	TEMPERATURE (DEG C)	DISCHARGE (CFS)	SUSPENDED SEDIMENT (MG/L)	SUSPENDED SEDIMENT DISCHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM
APR.														
01...	0930	--	2080	716	4020	--	--	--	--	--	--	--	--	--
01...	1445	--	1050	626	3690	--	--	--	--	--	--	--	--	--
01...	1645	--	3400	635	5820	--	--	--	--	--	--	--	--	--
01...	1800	--	3370	699	6360	--	--	--	--	--	--	--	--	--
01...	2030	1.0	3250	572	5020	--	--	--	--	--	--	--	--	--
01...	2100	--	2400	333	2160	21	26	32	40	54	59	73	79	100
02...	0930	--	2080	441	2480	--	--	--	--	--	--	--	--	--
JULY														
26...	1230	--	358	59	57	--	--	--	--	--	--	--	--	--
AUG.														
31...	0930	--	334	45	41	--	--	--	--	--	--	--	--	--

BLACK RIVER BASIN

05381350 - LEVIS CREEK AT BLACK RIVER FALLS, WIS. (LAT 44 18 42 LONG 090 48 23)

DATE	TIME	TEMPERATURE (DEG C)	DISCHARGE (CFS)	SUSPENDED SEDIMENT (MG/L)	SUSPENDED SEDIMENT DISCHARGE (T/DAY)
NOV., 1970					
10...	0945	--	70	30	6.0
AUG., 1971					
23...	1310	--	6.0	8	.13

WISCONSIN RIVER BASIN

05393500 - SPIRIT RIVER AT SPIRIT FALLS, WIS. (LAT 45 26 58 LONG 089 58 47)

DATE	TIME	TEMPERATURE (DEG C)	DISCHARGE (CFS)	SUSPENDED SEDIMENT (MG/L)	SUSPENDED SEDIMENT DISCHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM
NOV.								
04...	1200	4.5	280	4	3.0	--	--	--
FEB.								
12...	1320	--	57	6	.92	--	--	--
APR.								
11...	1200	--	238	4	2.6	--	--	--
12...	1340	.5	2000	53	284	--	--	--
12...	1430	.5	2050	48	265	--	--	--
12...	1540	--	2050	48	266	11	15	18
12...	1630	.5	2150	41	238	--	--	--
12...	1850	.5	2120	38	217	--	--	--
13...	0940	.5	1780	11	51	--	--	--
JUNE								
29...	0900	23.5	13	32	1.2	--	--	--
AUG.								
11...	0900	16.0	52	2	.28	--	--	--
SEP.								
10...	1000	16.0	25	4	.23	--	--	--

SEDIMENT ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

WISCONSIN RIVER BASIN--Continued

05393500 - SPIRIT RIVER AT SPIRIT FALLS, WIS. (LAT 45 26 58 LONG 089 58 47)--Continued

DATE	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM	SUS. SED. SIEVE DIAM. % FINER THAN 1.00 MM
NOV.							
04...	--	--	--	--	--	--	--
FEB.							
12...	--	--	--	--	--	--	--
APR.							
11...	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--
12...	24	30	34	43	63	88	100

DATE	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM	SUS. SED. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM
APR.												
12...	88	100	--	--	--	--	--	--	--	--	--	--
12...	--	--	0	0	1	3	5	10	23	48	88	100

DATE	TIME	TEMPERATURE (DEG C)	DISCHARGE (CFS)	SUSPENDED SEDIMENT (MG/L)	SUSPENDED SEDIMENT DISCHARGE (T/DAY)
05397500 - EAU CLAIRE RIVER AT KELLY, WIS. (LAT 44 55 06 LONG 089 33 00)					
FEB., 1971					
17...	1125	.0	88	2	.59
APR.					
12...	1130	2.0	4810	26	338
13...	1145	4.5	3420	9	86
SEP.					
27...	1035	--	102	5	1.4
05399500 - BIG EAU PLEINE RIVER NR. STRATFORD, WIS. (LAT 44 49 19 LONG 090 04 46)					
OCT., 1970					
01...	1345	--	19	4	.23
NOV.					
06...	1100	--	272	16	12
APR., 1971					
09...	1330	.5	7590	106	2180
10...	1200	--	5750	46	706
13...	1320	--	1480	9	35
MAY					
04...	1200	9.5	80	4	.76
24...	0810	--	272	32	23
24...	1720	--	2660	234	1680
25...	1200	--	6130	94	1560
JUNE					
03...	1400	--	153	7	2.9
AUG.					
12...	1200	21.5	4.0	2	.02
14...	0750	--	173	38	18
SEP.					
10...	0820	--	400	28	30
28...	1130	15.0	261	2	1.4

SEDIMENT ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

WISCONSIN RIVER BASIN--Continued

05400650 - LITTLE PLOVER RIVER AT PLOVER, WIS. (LAT 44 28 26 LONG 089 31 44)

DATE	TIME	TEMP-ERATURE (DEG C)	DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)
FEB., 1971					
08...	1120	1.5	8.5	7	.16
MAR.					
15...	1030	4.5	12	6	.17
APR.					
13...	1440	11.0	17	2	.09
28...	1100	5.5	15	1	.04
JUNE					
07...	1125	12.0	13	12	.39
27...	1900	18.0	9.1	9	.22
JULY					
19...	1200	14.0	9.8	8	.21
AUG.					
23...	1300	13.5	9.0	1	.02

05401050 - TENMILE CREEK NR. NEKOOSA, WIS. (LAT 44 15 44 LONG 089 48 38)

DATE	TIME	TEMP-ERATURE (DEG C)	DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)
FEB., 1971					
10...	1245	.0	24	3	.19
MAR.					
16...	1330	1.0	81	92	20
APR.					
08...	0915	6.5	165	215	96
13...	1520	9.5	126	114	39
29...	1000	6.0	101	22	6.0
JUNE					
08...	1530	15.0	71	20	3.9
JULY					
20...	1545	16.0	48	8	1.0
AUG.					
25...	1025	12.0	42	10	1.1

05401535 - BIG ROCHE A CRI CREEK NR. ADAMS, WIS. (LAT 44 05 52 LONG 089 46 30)

DATE	TIME	TEMP-ERATURE (DEG C)	DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)
MAR., 1971					
16...	0915	1.5	79	22	4.7
APR.					
08...	0845	6.5	125	14	4.7
13...	1555	--	108	12	3.6
29...	1500	8.0	71	6	1.1
JUNE					
08...	1200	14.0	87	12	2.7
JULY					
20...	1100	15.0	46	2	.19
AUG.					
24...	1400	14.5	38	4	.41

05403500 - LEMONWEIR RIVER AT NEW LISBON, WIS. (LONG 43 52 47 LONG 090 09 40)

DATE	TIME	TEMP-ERATURE (DEG C)	DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)
25...	1200	.5	808	9	20
31...	C7CC	--	1310	16	57
31...	1700	--	1440	13	51
APR.					
01...	0700	--	17CC	26	122
01...	1700	--	1860	20	100
02...	C70C	--	2050	38	210
02...	1315	--	2100	12	70
02...	1700	--	2100	21	119
03...	0700	--	2C40	15	83
04...	0700	--	1830	13	64
05...	07CC	--	1680	12	55
06...	0700	--	1560	13	55
AUG.					
27...	1C05	--	14	10	.38

DATE	TIME	DIS-CHARGE (CFS)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM	STREAM WIDTH (FT)
APR.													
02...	1300	2100	1	2	3	4	4	5	5	6	10	60	100

SEDIMENT ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

WISCONSIN RIVER BASIN--Continued

05409870 - NEDERLO CREEK NEAR GAYS MILLS, WIS. (LAT 43 21 30 LONG 090 53 49)

DATE	TIME	DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)
MAR.				
15...	1045	3.1	30	.25
30...	1430	4.0	59	.64
30...	1445	4.2	80	.91
30...	1500	4.2	72	.82
30...	1515	4.2	99	1.1
30...	1530	4.2	83	.94
30...	1545	4.2	102	1.2
30...	1600	4.5	89	1.1
30...	1615	4.5	114	1.4
30...	1630	4.5	93	1.1
30...	1645	4.5	88	1.1
30...	1700	4.5	89	1.1
30...	1715	4.5	74	.90
30...	1730	4.5	58	.70
30...	1745	4.5	62	.75
30...	1800	4.2	62	.70
MAY				
11...	1100	2.3	26	.16
18...	1730	4.4	89	1.1
18...	1745	4.9	109	1.4
18...	1800	5.4	116	1.7
18...	1815	5.4	84	1.2
18...	1830	5.1	134	1.8
18...	1900	4.6	76	.94
18...	1915	4.4	72	.86
18...	1930	4.1	68	.75
18...	2000	3.6	53	.52
18...	2015	3.4	39	.36
18...	2115	3.9	128	1.3
18...	2130	4.4	80	.95
18...	2145	4.4	93	1.1
18...	2200	4.9	83	1.1
18...	2215	5.7	88	1.4
18...	2230	6.3	125	2.1
18...	2245	6.3	114	1.9
18...	2300	6.0	106	1.7
18...	2315	5.5	76	1.1
18...	2330	5.2	63	.88
18...	2345	5.0	54	.73
18...	2400	4.8	53	.69
19...	0015	45	46	5.6
19...	0030	4.2	42	.48
19...	0045	4.2	46	.52
19...	0100	4.0	42	.45
19...	0115	4.0	40	.43
19...	0130	3.8	42	.43
JUNE				
07...	0345	4.6	103	1.3
07...	0400	5.2	119	1.7
07...	0415	5.2	89	1.2
07...	0445	5.2	79	1.1
07...	0500	4.9	75	.99
07...	0515	4.1	61	.67
07...	0545	3.9	49	.52
07...	0600	3.4	39	.36
20...	--	5.7	141	2.2
24...	2200	4.2	92	1.0
JULY				
08...	1300	2.1	7	.04
AUG.				
10...	1245	2.1	12	.07

DATE	TIME	DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM
JUNE													
20...	--	5.7	141	2.2	34	40	46	55	68	71	78	80	100
24...	2200	4.2	92	1.0	39	46	53	61	71	77	84	89	100

SEDIMENT ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

WISCONSIN RIVER BASIN--Continued

05409890 - NEDERLO CREEK NEAR GAYS MILLS, WIS. (LAT 43 21 43 LONG 090 52 44)

DATE	TIME	DIS- CHARGE (CFS)	SUS- PENDED SEDI- MENT (MG/L)	SUS- PENDED SEDI- MENT DIS- CHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM
MAR.												
15...	1000	6.5	26	.46	--	--	--	--	--	--	--	--
APR.												
12...	1630	20	453	25	--	--	--	--	--	--	--	--
MAY												
18...	1000	5.2	1050	15	--	--	--	--	--	--	--	--
18...	1100	16	176	7.8	--	--	--	--	--	--	--	--
18...	1900	7.9	3070	66	--	--	--	--	--	--	--	--
JUNE												
07...	0800	4.8	1140	15	37	46	56	64	76	83	91	100

DATE	TIME	TEMP- ERATURE (DEG C)	DIS- CHARGE (CFS)	SUS- PENDED SEDI- MENT (MG/L)	SUS- PENDED SEDI- MENT DIS- CHARGE (T/DAY)
05410000 - KICKAPOO RIVER AT GAYS MILLS, WIS. (LAT 43 19 10 LONG 090 51 08)					
JUNE, 1971					
08...	1150	--	518	164	229
JULY					
09...	1415	--	286	46	36
21...	1100	--	289	56	44
AUG.					
30...	1430	--	240	56	36
05410500 - KICKAPOO RIVER AT STEUBEN, WIS. (LAT 43 11 27 LONG 090 52 28)					
JUNE, 1971					
08...	1500	--	523	200	282
JULY					
21...	1525	--	403	100	109
AUG.					
31...	1215	--	316	130	111
GRANT RIVER BASIN					
05413500 - GRANT RIVER AT BURTON, WIS. (LAT 42 43 13 LONG 090 49 09)					
MAR., 1971					
02...	1145	1.5	809	198	434
15...	1600	--	1040	2200	6190
SEP.					
27...	1215	--	100	127	34

ROCK RIVER BASIN

05432500 - PECATONICA RIVER AT DARLINGTON, WIS. (LAT 42 40 40 LONG 090 07 07)

DATE	TIME	DIS- CHARGE (CFS)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM
MAR.										
15...	1915	2150	57	66	80	86	88	89	94	100

SEDIMENT ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

ILLINOIS RIVER BASIN

05543830 - FOX RIVER AT WAUKESHA, WIS. (LAT 43 00 17 LONG 088 14 37)

DATE	TIME	DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)
NOV.				
03...	1215	56	8	1.2
MAR.				
09...	1500	233	13	8.2
APR.				
21...	1205	158	13	5.5
JUNE				
01...	1330	53	32	4.6
JULY				
07...	1310	23	16	.99
AUG.				
18...	1350	16	16	.69
SEP.				
08...	1345	14	19	.72
30...	1510	14	10	.38

DATE	DIS-CHARGE (CFS)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM	STREAM WIDTH (FT)
SEP.												
30...	14	0	1	4	7	11	17	25	41	52	66	100

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